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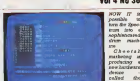
Vol 4 No 36

Sinclair reaches agreement with major creditors

SINCLAIR Research has reached agreement with its major creditors to continue their support for the troubled micro company — at least in the short term

The deal was hammered out last week between the five main creditors — Barclays Bank, Citibank, Thorn EMI, Timex and AB Electronics — which between them are owed around £15 m. None of the parties were keen to enlarge on the nature of the deal, but it is understood to take Sinclair safely up to the peak sales period at Christmas. Then, if Sinclair can hold its 44% market share, it will be looking again for additional finance

Sinclair's chief executive Bill Jeffrey has also rearranged the management team and there will be changes to the board of directors Sir Clive Sinclair, will remain as chairman and his 85% stake in Sinclair Research remains unchanged.



NOW IT is possible to turn the Spectrum into a sophisticated drum machine

Cheetah marketing is producing a new hardware device — called the

cont on page 4 ▶

CBM expands C128 and C64

COMMODORE is to produce new memory expansion boards for its C128 micro upgrading it to 256K and 512K, and a cheaper version of its 1571 disc drive for the European market

Also the company has announced three new special package deals for the Commodore 64, to come into force in October

The C128 memory boards, apparently a response to the launch of machines like Amstrad's 8256, will not be available in the UK until next year and no prices have so far been decided.

The new 1571, however, may well come out for under £200 As yet unnamed, it will be identical in operation to the 1571, but use a cheaper disc mechanism and single-sided discs The C128 itself is still on schedule for release to the shops by mid-September

The three packages for the C64 are

1) C64 plus C2N cassette decks plus four software packages — £199,
2) C64 plus 1541 disc drive — £299 99,
3) 1541 disc drive, MPS 801 printer, *Easy Script* and *Arcade Extravaganza* (a cassette of four arcade games) — £199 99

"These deals will be taking over from our holiday promotion which ends on September 30, and the three packs will be available from the beginning of October," said a Commodore spokesman "The four software packages with the first special offer are all new games"

Commodore is also cur

continued on page 4 ▶

LIFE AFTER HAMPSTEAD – SEE p10



From the C64 version of Terrormolinos, Melbourne House's latest from the authors of Hampstead

INSIDE) HARDWARE EXPANSIONS FOR THE AMSTRAD CPC AND QL

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EDITORIAL

Commodore appears to be getting paranoid. Why else is it choosing not to review its Amiga micro in public at this week's *Personal Computer World* Show? It seems to think that its presence would detract from the real star of its stand – the C128. Commodore almost gives the impression of lacking confidence in the C128.

However exciting the Amiga may be – and it is very exciting – it costs around five times as much as the C128. There should be no conflict between the two machines.

The problem with the C128 – if there is one – has nothing to do with the Amiga and has more to do with the all-too-successful Commodore 64 and Commodore's estimated $80m loss.

The C64 was enormously successful both in terms of numbers sold and in terms of the number of software packages written for it.

In 1984 Commodore attempted to replace the machine with the Plus/4. The attempt flopped and probably accounts for a good part of Commodore's loss. The Plus/4 didn't come off because it offered little technological advance over the C64 and being non software compatible with the earlier machine it never gained much software support.

Its failure seems to have frightened Commodore. The company seems then to have become convinced that the Plus/4 fell down because it wasn't C64 compatible.

Determined not to make the same mistake, Commodore has now come up with the C128. How can it fail – it has C64 compatibility and adds in CP/M software? Yet the Plus/4 failed because it was technologically run-of-the-mill, not because of its software incompatibility. The C128 again is not a significant technological advance on the C64. And being really two micros in one it is both an expensive way of running C64 software and an expensive way of running CP/M software.

It is the C64 and not the Amiga that is the threat to the C128 in this country.

The problem is the C64 is just *too* successful and is proving a hard act to follow.

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ABC

58,952 copies sold every week
(Jan-June 1984 ABC)

Popular Computing Weekly. Tel: 01-437 4343.

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Computer Trade Association Magazine of the Year

Memotech MTX prices plunge

MEMOTECH has announced significant price cuts for its two machines, the MTX500 and MTX512, a new range of disc drives, and a Spectrum software emulator for the MTX512.

The 80K MTX512 now costs £129.95, down from £199 while the 48K 500 model is now just £79.95 from £175.

The new disc drives comprise 250K, 500K and 1M capacity models. For the last two Digital Research's CP/M 2.2 is also available. The 500K CP/M system costs £499.00 and the 1M version £549.00, comprising MTX512, New Word word processor, Supercalc, Contact communications software disc drive and disc interface board.

The Spectrum software emulator, called the Speculator is priced at £39.95. The package also includes a tape containing loading routines for 20 Spectrum programs including *Flight Simulation* (Sinclair), *Tornado Low Level* (Vortex), *Manic Miner* (Software Projects), *Starion* (Melbourne House), *Twin Kingdom Valley* (Bug Byte) and *Potty Pigeon* (Gremlin). The games, however, are not included in the Speculator package. Having entered the correct loading routines selected by menus, the user then is able to load and run the Spectrum version of any of the games.

Further cassettes at around £4 are planned to make more Spectrum titles available.

The Speculator will be available initially only by mail-order from Memotech. Details from Memotech, Station Lane Industrial Estate, Witney, Oxon (0993 2977).

Firebird goes for disc software

FIREBIRD is to bring out a range of budget titles on disc for the Commodore 64, Atari XL and XE and Amstrad 664 and 6128 machines.

The series will be called Super Silver discs—priced at £9.95.

For your money, you get two games *per* disc. While some of the sixteen games are existing Firebird titles, most will be new. "The old titles which we will be putting on disc are *Microcosm*, *Don't Panic*, *Chicken Chase* and *Cylu*," said Firebird's Tony Rainbird.

Another silver range game, *Booty*, will be appearing on microdrive for the QL in the same series, coupled with a new game called *Grinwars*.

Karateka launch set

KARATEKA, the karate simulation by US company Broderbund, which topped the American charts for some months is set for release in this country by Ariolasoft this autumn at £9.95.

"We should see *Karateka* coming out under our licence with Broderbund soon," said Frank Brunger at Ariolasoft. However, it will only be available for the Commodore 64, as it is such a complicated program."

Karateka on Apple II

Spectrum drum

continued from page 1

Specdrum – *costing £29.95, which uses the latest sampling techniques to recreate a wide variety of percussive sounds.*

The Specdrum is shaped like a joystick interface and comes with a program on tape which allows a library of existing percussion patterns to be used or new sound patterns to be created. It will connect via a phono plug, to most existing hi-fi units. Using a tape-synch option the unit can also be used with other electronic instruments.

Boots has arranged an exclusive selling contract for six months with an order of 6,000.

"We see the Specdrum as a viable alternative to a drummer for all kinds of people who play music and it's not so anti-social," said Boots' John Greengrass. Boots expects the Specdrum to be in stock by mid-September.

Cheetah is currently preparing a series of add-on cassettes for the Specdrum which will contain different drum sounds.

More details from Cheetah Marketing, 1 Willowbrook Science Park, Crickhowell Road, St Mellons, Cardiff.

Commodore progress

continued from page 1

rently working on the successor to the first Amiga model, being developed in the US which will offer increased memory and probably a built-in hard-disc unit.

"The first machine launched in the States last month—the A1000—is the basic model in the series—there is no way it can be cut down," said John Collins of Commodore Electronics.

The Amiga A1000 is unlikely to sell for under £1,000 in the UK. "The price will depend on how the dollar settles down, but the Amiga is not a first-time entry level computer," said Gail Wellington, Commodore's European Software Manager.

She discounted speculation that Commodore might offer the Amiga without a monitor to break the £1,000 barrier.

The Amiga was received warmly at its US launch, and Commodore needs high sales to counteract the slump of the past year.

Commodore International has announced a projected $80m (around £58m) loss. Sales had halved in the company's third quarter—$168m as against $328m for the corresponding period last year.

"Business has been slow," commented Paul Lazovick of Commodore US. "The whole industry has been experiencing a slow-down since June last year, and foreign exchanges against the dollar have not been favourable either.

"We are however in a good position to capitalise on our new families of machines and the investment we have made in the PC 10 and 20 in Europe and Amiga products."

Micro help for the disabled

WITH a Little Help from the Chip is a new TV series beginning on BBC2 on September 6, looking at ways in which the micro can help disabled people.

There are five programmes in the series, being broadcast on Fridays at 7.35 pm.

Yet more Spectrum deals

ANOTHER bundling deal has been put together on the Spectrum Plus, this time by Spectrum Group, which has 300 franchised stores throughout the country and supplies to a further 200.

For £149.95, the package includes the Spectrum Plus, data recorder, Currah speech unit, Quickshot II joystick and Stack rifle. The company is also planning a business pack comprising a Rotronics wafadrive and printer with the micro. Prices for this package have yet to be finalised.

Most of the major high street outlets are continuing talks with Sinclair for similar 'bundles'.

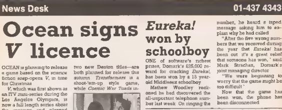
Ocean signs *V* licence

OCEAN is planning to release a game based on the science fiction soap-opera *V*, in time for Christmas

V, which was first shown as an ITV mini-series during the Los Angeles Olympics, is now a full length series about the invasion and planned takeover of earth by a reptilian race from another galaxy

Ocean programmers are working on a linked arcade game for Commodore, Spectrum and Amstrad machines Development is still in the very early stages, but it is hoped the game will come out before Christmas

Ocean is also to publish two more games developed by Denton Designs, the team which programmed the company's *Frankie Goes to Hollywood* as well as *Shadowfire* for Beyond *Transformers* and *Cosmic War Toads*—the two new Denton titles—are both planned for release this autumn *Transformers* is a shoot-'em-up style game, while *Cosmic War Toads* involves intergalactic exploration in search of the eponymous toad's spawning ground The games will be released on Commodore 64 and Spectrum.



Marc Singer and Michael Ironside in a scene from *V*

Eureka! won by schoolboy

ONE of software's richest prizes, Domark's £25,000 reward for cracking *Eureka!*, has been won by a 15 year-old Middlesex schoolboy

Mathew Woodley reckoned he had discovered the all-important telephone number last week On ringing the number, he heard a taped message asking him to explain why he had called

"After the five wrong numbers that we received during the year that *Eureka!* has been out it's a great relief that someone has won," said Mark Strachan, Domark's joint managing director

"We were beginning to worry that the game might be too difficult"

Now that the game has been won, the phone has been disconnected

Softek goes for 68000

SOFTEK'S new label, Softechnics, specialising in 68000 processor programming, has produced its first titles

Timelink and *Rhythm* have been completed for the Apple Macintosh, and are now converted for the Atari 520ST

"*Timelink* is a temporal database and time management system, which we are hoping to link up with Tripos's electronic mailbox in Cambridge," said Tim Langdell of Softek

"*Rhythm* is really a combination of calculator, pocket computer and spreadsheet It's configured like an extremely powerful programmable calculator"

Timelink costs £99 99 and *Rhythm* £49 95 Softechnics' next big project is the development of a new suite of integrated programs, to be called *Proteus*, for Atari ST, Amiga and Macintosh machines, which is planned for completion by the middle of next year

Letters

Unethical

I write to you as one of the 'suckers' who recently purchased an Amstrad CPC 664

I find it totally unacceptable that I, like a few thousand others, have parted with good money buying a machine which has 'died' after just four months

I would hope that the computer press would present a united front to Amstrad in a campaign aimed at persuading them to replace these machines with the 'new' CPC6128 and give the suckers' a fair deal

Like many other people, I consider Amstrad's marketing policy to be totally unacceptable and unethical.

G Wylie
18 Meikle Crescent
Wattston
by Airdrie

Coincidence?

In the preview of the Commodore Amiga (August 1 issue) the reviewer stated that the Atari ST range did not use any of the graphics technology used on their 8-bit range Well, I believe he has come to an incorrect conclusion because of the following

Firstly, in several reviews there have been pictures of a 520 ST producing the famous Atari multicolour 'rainbow' effect, which, as far as I know only Atari's Antic chip can produce

Secondly, why have a video shifter/processor working at such a high clock rate (32MHz) when only about 10MHz is needed to produce the graphics resolutions we all know about Perhaps the extra speed is to produce more colours on screen or many other things

Finally, Atari designed a successor to Antic and put it in their vanishing 7800 ProSystem, launched at a press conference on May 21 1984 This chip, interestingly, gave exactly the same resolution and colours as, yes, you've guessed it, the ST, plus a lot more, including 100 sprites Coincidence? I don't think so, I think the two chips are one and the same Anyway Gem has very powerful VDI and AES routines including graphics routines and is more 'standard', if you can call anything standard these days, than Intuition

One other major error came to my attention, that is that the ST, QL and Amiga run at 8MHz and that program speed is slower 'to allow the hardware to access screen Ram' This is partly true, but also it is because the 68000 relies heavily on microcode for its structured instructions and anyway both the ST and Amiga allow their graphics processors to access Ram without slowing the system a lot

Why did the reviewer say a lot of hype had been made of the ST range? Why *not* get excited – it offers Mac-style facilities, and that's real POWER, for only a third of the price.

In fact, it's just the computer I have been waiting for and both the 260STD and 520ST beat the Amiga pound for pound

Jason Hopkins
1 Craighill Road
Knighton
Leicester
LE2 3FA

Faster run

I write in response to the letter penned by Barry Adams, "Super computer?", Vol 4 No 30, concerning his comments on having to load Gem from disc While this may be so on the systems just shipped in, the STs proper will have Gem in Rom. The first ST computers will be purchased mainly by software houses and not really by the general public

As to his point on access to the Rom, I'm sure he meant '2 bytes' as opposed to '2 bits', after all it is a complete 16-bit data bus (not the multi-plexed 8-bit as per QL), which means it should run faster than the QL instead of more slowly

A machine which comes with monitor, 500K disc drive advanced operating system and hard disc interface, etc, as standard knocks spots of the likes of the QL and its microdrives How much would it cost to equip the QL to the ST standard?

D Stock
76 Oakley Road
Luton
Beds

Ah well! back to the conventional methods of money raising!

Undocumented

I was amused to read the letter in the August 8 issue of D Halliwell's "discovery" of the standard CP/M *User n* command.

This command is not undocumented, as Mr Halliwell will find if he cares to look through the CP/M section of the DD1 disc drive handbook It is also used in Amstrad Basic (*|User n*)

Any book on CP/M will give a description of the User n command — it is a standard feature of CP/M 1 2 upwards to CP/M 3

Robert Grover
Tufnell Park Computers,
45 Junction Road
Archway
London N19

New concept

Spectrum owners may be interested in the following program which works best without a printer

```
10 FOR i = 64 TO 87
20 POKE 23681,i
30 LPRINT " Popular Computing Weekly"
40 NEXT i
50 PAUSE 0
```

The 'unused' memory location, 23681 is a new concept in computing – a system constant It is the high byte of PR-CC and should always contain decimal 91

The implications are obvious and if readers have a disassembler or better still, a copy of Dr Ian Logan and Dr Frank O Hara's *Spectrum Rom Disassembly*, they will find some curious code in the following routines *Po-Store, Po-Fetch, Cl-Set, The Copy Command, Copy-Buff*, and *Clear-Prb*

The following program is also related:

```
10 PRINT COPY PRINT
```

If Stephen Vickers had completed the 16K monitor program, the Spectrum would have had an extra ½K of user Ram.

Microdrive owners who think they will have two unused locations should reset their machines and try

Cat 1 Print Peek 23729

G Wearmouth
48 Dongola Road
London N17

Dipswitch

I've noticed a lot of correspondence recently concerning interfacing the Brother M-1009 printer with the QL. Perhaps my advice might help someone

The Sinclair printer cable is wired incorrectly at the printer end for the M-1009 and should be as follows

Black to 1, white to 2, green to 3, blue to 20, red to 5, and orange to 6 Connections 4, 6 and 8 should be linked

Now the dip switch settings, these should be:

SWITCH 1
1-ON, 2-OFF, 3-ON, 4-ON, 5-ON, 6-ON, 7-OFF, 8-OFF,
SWITCH 2
1-ON, 2-ON, 3-OFF, 4-ON, 5-OFF, 6-OFF, 7-OFF, 8-ON,

With these settings the FX 80 printer driver works perfectly Listings are obtained by:

Open £channel no, *Ser*
List £channel no

The printer driver can easily be changed from any of the existing print styles to any of the others documented in the Brother manual

D T Clark
Breich
West Lothian

Nightshade

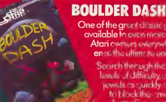
To get infinite lives in *Nightshade Poke* 53442, 0 and *Poke* 53443, 12 These should be put in before the *Rand Usr* command in the loader

This is the easiest Ultimate game I've played. I completed it with 67% and a score of 1,2736000

Chris Allen
Felixstowe
Suffolk

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The 8th Personal Computer Show



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Holidays in the Sun

***Christina Erskine,** herself unable yet to attain Hampstead, strikes out for Melbourne House's package holiday*

Hampstead was one of last year's more interesting adventures

Reviewers loved it for its complete absence of any elves, rings or mystical quests, while it was voted computer game of the year in, of all magazines, *The Listener* A fitting award I bet there are quite a few *Listener* readers in London's select NW3 postal area.

Those who completed the game and attained the Hampstead way of life were soon eagerly awaiting a sequel, which provided a poser for authors Peter Jones and Trevor Lever – the program had been written as a one-off

Now, a year later, the Hampstead yuppies can start all over again at rock-bottom – the follow-up is *Terrormolinos*, a nightmare package holiday based on a location not unadjacent to the Costa del Sol.

"Suitably enough, the idea came to us while we were walking on Hampstead Heath – a game about going on holiday," said Peter Jones "Trevor and I just looked at each other and you could almost see the ideas popping out of our heads

Holiday horrors

"And since the game's been written, people keep suggesting all sorts of things we could have put in It seems as though everyone in the world has had a dreadful holiday experience of some kind, from luggage going astray to sharing a hotel room with assorted livestock

"Trevor, who works for a computer consultancy went to a sales conference in Lloret de Mar shortly after we began work on *Terrormolinos*, and came back bursting with ideas "

"Not only that, but after my holiday this year in Greece, all the things we'd used in *Terrormolinos* nearly happened to me," added Trevor "There were people getting horrifically sunburnt, and a man who insisted on conducting mass singing on the coach tours – it was quite prophetic "

As a partnership Peter and Trevor concentrate on the writing – using Gilsoft's adventure generator program *The Quill* *Terrormolinos*, unlike *Hampstead*, includes illustrations, which were developed at Melbourne House, which also completely reprogrammed the game, using text compression techniques so that the illustrations could fit in

"Peter and I are *not* programmers – I may work with computers every day, but we still wouldn't know one end of a program from the other," said Trevor "We can just about manage to use the *Quill*, which I got as a Christmas present.

"It's all very low-end technology – we have one Spectrum between us which is stuck together with Sellotape and only works if you hit really hard

"For some reason it always crashes on Fridays, so that's when we go to the pub, but it usually works perfectly all weekend when we'd really like to go to the pub "

The illustrations are a selection of snap-shots the player must take in order to complete the game – it is not enough just to survive your ghastly holiday

"The pictures are rather interesting," said Peter "We've had them done so that they look just like those saucy picture postcards – which probably means we'll get lots of complaints for being sexist and racist. The idea is that you must take ten particular photos, and when you take a correct one, the appropriate 'picture postcard' unfolds like a Polaroid on screen "

Melbourne House's Australian graphics programmers worked on the 'sea side postcards' illustrations, but Peter and Trevor had to send fairly detailed sketches – saucy postcards being a somewhat unknown quantity in Melbourne

The game retains the same light touch throughout, and you get the feeling that the last laugh will always be with the programmers It's no good asking for *Help*, for example If you do, you will be advised to phone Kwikhol (your tour operator) for assistance Then a text message ostensibly from Kwikhol's answering machine appears, suggesting you leave your name and number after the tone "I'd love to know how many people end up talking to their TVs after the micro's gone beeeeep,' grinned Peter

But the snapshots are only half the story as a long-suffering Dad you must keep the family all in one place You mustn't let little Doreen drown in the sea, must prevent Ken Jr from being gored by a bull, and save them all from heat stroke, poisoning and juggernauts

Claim to fame

The move away from any hint of *Dungeons and Dragons* or Tolkien (there is one screen slightly reminiscent of Edgar Rice Burroughs' Martian Chronicles, but you're dead if you get to this location) is entirely deliberate

"I think adventures should become more and more like novels one adventure I'd love to do would be a John le Carré adaptation – call it Eeny Meeny Miny Mole or something,' said Peter

The duo has probably been helped by the fact that neither has a background in programming or adventures The partnership goes back some years and began when they played in bands, writing songs for such rock legends as The Dave and Things in Bags

Promo video

"Not that we took our musical careers very seriously," said Peter In fact our main claim to fame was that we were playing the same sort of venues as Killing Joke and The Birthday Party, and they were just as obscure as we were then, and one of the Troggs once came up to us and said he liked the band."

Trevor then started his career with mainframes, and Peter moved into journalism, first on *Melody Maker* and then an ill-fated magazine called *Musicians Only*

"We're even trying to get into television now," said Peter "We have been attempting to interest Channel 4 in our *Open Polytechnic* series, and we even have a 15 minute promotional video on Slough ready made as part of it The Slough video was made some time ago, and we did have some initial interest from Gerry Anderson. He didn't stay interested for very long, however although he did try to cheer us up by telling us that *Star Wars* was rejected for six years "

As part of the Lever-Jones blitz cam



paign on Channel 4, the pair plan to use the same approach as they did with *Hampstead*, which was to send out letters informing software companies of the product without enclosing a tape or any evidence that the game existed.

"Luckily Melbourne House trusted us and wanted to follow it up With *Terrormolinos* they weren't so sure With the company being run from Australia the final decision was taken in Melbourne, and I don't think they could quite reconcile the scenario of *Terrormolinos* with Bondi Beach."

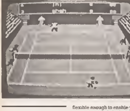
In fact, it was ex-Activision managing director Geoff Heath's move to Melbourne House which clinched the deal He insisted that the idea was attractive and the contract was signed.

As for any more games from the Lever-Jones *Quill* this entirely depends on the success of *Terrormolinos*

"You could say that if we don't write another one it means that *Terrormolinos* was an unmitigated disaster," said Peter

"Peter is always such a pessimist," added Trevor "When we did Hampstead, it was Peter who said no-one would take it on.

"Then when Melbourne House released it, he said it wouldn't sell Then when it sold he said we'd never manage to do another one It was exactly the same with *Terrormolinos*."



State of play

Program *Match Point* **Micro** QL **Price** £14 95 **Supplier** Psion, 8 Huntsworth Mews, London NW1

At last, another good QL program *Match Point* was first released on the Spectrum than converted to the Commodore 64 and now, the best edition yet, issued on the QL

What makes the program the best version is the quality of the graphics – clever animated tennis players Controls are simple to use but flexible enough to enable you to inject a good deal of skill into your play

You can play against the computer in a variety of difficulty levels and matches from quarter final to final Ball boys run on to grab netted balls and linesmen sit in attendance – no swearing or outrageous temper tantrums though

With Psion's *Match Point* there is evidence that the QL really could support some pretty superb software if it had the chance. A must for any owner of a QL

Matthew Palmer

Mad magic

Program *Faerie* **Micro** *Commodore 64* **Price** *£2 50* **Supplier** 8th Day, 18 Flaxhill, Moreton, Wirral

Faerie is the sixth in a series of eight *Quilled* adventures from 8th Day and it proves just what can be done with patience and imagination.

I have always had some reservations about *The Quill* and the adventures created by using it, however, I now feel that 8th Day have taken a giant step towards dispelling my doubts

Faerie is a delightful mixture of a middle-earth and adult fairy story, set in a surrealistic world of magic and mayhem It is full of traditional atmosphere and excellent text descriptions

Your quest is to locate thirty treasures and discover how to accumulate points for them – not an easy task I hasten to add Described as being at 'advanced difficulty level', the game is set in a fantasm of both under- and over-worlds, where magic will certainly be needed to succeed

There are some nice touches of humour especially when meeting the inhabitants of this strange land for example, a trout that talks – bizarre – and a witch straight out of Hansel and Gretel – I was on my guard the moment she offered me 'some spicy gingerbread, cutie!'

So at a very attractive price, I feel there is going to be much wand-waving and many pleasant surprises for the players of *Faerie*

Owners of other micros needn t feel left out, versions of this adveture are also available for the Amstrad and Spectrum **Roger Garrett**

The big city

Program *London Adventure* **Micro** Spectrum 48K **Price** £4 95 **Supplier** Fridaysoft, Unit F, The Maltings, Station Road, Sawbridgeworth, Herts CM21 9JX

London *Adventure*, an adventure set in London sets you after a fortune hidden somewhere in the environs of this thriving metropolis What a good idea, thought I, to replace the omnipresent elves with hordes of tourists and substitute big red buses for angry dragons

The search starts In Greenwich observatory, which certainly adds new relevance to the choice of go east or West But the descriptions are so brief and bland, I wondered if this wasn't Milton Keynes rather than the rich tapestry of life in the smoke It's a pity as the programmer seems to know the area well enough

Soon another failing became obvious In terms of vocabulary the program is decidedly unhelpful Now you might argue that the same could be said about the average hurrying Londoner, but I kept finding myself frustrated in attempts to do things and there s no help Sorry, but while the core idea is good, the implementation demonstrates all that can be bad about Quilled adventures

John Minson

Home Account

Program *Budget* **Micro** Amstrad CPC **Price** £14 95 **Supplier** No Man's Land 110 bos avenue de General Leclerc – 93506 Pantin-Cedex France or Centresoft UK

This release comes in the same range as the French database *File Manager* but they seem to have decided that pictoral representations of personal accounts are more difficult.

Home accounts programs, especially tape based ones always seem to me to be an application type that has little to offer compared to simple pen and paper The features on this implementation though, are on a par with any other budget program and it appears reasonably priced for its abilities

The program does however lack a graph drawing option common on many home accounting packages and which does much to justify their existance. This is pricipally due to the fact that there is a separate business graphics package available which is compatible with your *Budget* data. On the other hand *Budget* does have some neat and fairly original touches, such as the ability to add 'notes' to the entries

One or two other points about the package are irritating the fact that the entry cursor flashes and flickers in a most disturbing way, but it could be quite a powerful package when matched with the graphics utility

Tony Kendle

On file

Program *File Manager* **Micro** Amstrad CPC **Price** £12.95 **Supplier** No Man's Land, 110 bis, avenue du General Leclerc – 93506 Pantin-Cedex France or Centresoft UK

One of the advantages of Amstrad's success in Europe is that it widens the potential entertainment area for decent programs a good example is this tape based database from France. As a utility it seems to be sensibly priced for its capabilities – it supports 300 records of 20 fields and 240 characters per record and there are competent sort and search facilities. It doesn't have the sophistication or the flexibility of *Masterfile* but not everyone wants something that complex.

Where *File Manager* does score heavily is in the style of presentation. It uses windows and icon driven front end so much in vogue with 16 bit machines at the moment although without the mouse control – *Wip* rather than *Wimp* I suppose which I'm not sure isn't an improvement as far as mnemonics go.

Personally I have my doubts about the true value of these things – icons are supposed to make it easy for an absolute beginner to control the program but the system relies on our ability to express abstract concepts in a recognisable pictorial form.

Everything can fall down if it is hard to guess what the icons represent – for example a camera is used to stand for 'copy a record' which is something that only makes sense in retrospect. I also wonder if they are not a luxury when you have to fit your data into a limited amount of *Ram*. Still it is a welcome change to see effort being put into making serious programs as attractive and user friendly as possible and in that sense it has much to teach 'professional' CP/M release.

Tony Kendle

More robot

Program *Android 2* **Micro** Amstrad CPC **Price** £7.95 **Supplier** Vortex Software, Vortex House, 24 Kansas Avenue, Off South Langworthy Road, Salford M5 2GL

In the pre *Knight Lore* days Vortex were undisputedly the masters of 3D graphics on the Spectrum, and indeed their latest Spectrum release *Highway Encounter* is still technically in the forefront of releases for that machine. *Android2* was their first 3D game and at the time was quite astounding.

Today on the Amstrad it still looks good, even though the 3D effect is dated and less remarkable than it used to be, and even though there are no attribute problems with the machine, the amount of action going on at once on the screen and the detail contained seem to be handled with effortless ease and with no penalties paid in terms of speed of response.

In play the game is a slightly different derivative of their earlier release *Android* which in turn owes much to the *Berserk* arcade game. You have a suitably unlikely task to do which includes fighting your way through a very tight maze to destroy the heart of the enemy base and then return to your transporter capsule within the given time. Obstacles on your path include mines and three different types of enemy. Be warned – it is not easy and five lives seem pitifully few. The only technical quibbles I would put forward are that the sound could be improved and I don't like the way the screen pages rather than scrolls smoothly as you move along but it is still a game I would recommend strongly to arcade fans everywhere.

Tony Kendle

Solid fare

Program *Quann Tulla* **Micro** *Commodore 64* **Price** £2.50 **Supplier** 8th Day, 18 Flaxhill, Moreton, Wirral

Opening your bloodshot eyes you realise that it is very difficult to breathe! Quickly leaping from your suspend-bubble, you grope around in the thick black smoke for your airmask. Having found this item it is time to explore your surroundings and there is plenty to explore.

Quann Tulla is the third *Quilled* adventure from 8th Day. The action takes place aboard the once mighty Flagship of the federation and you the intrepid hero(ine) have certainly got a lot of work to do before the evil aliens take over the federation.

The battle initially takes place in the remains of the *Quann Tulla* craft but after solving numerous puzzles, all quite logical, the action then moves on to the final conflict on a distant alien planet.

The screen descriptions in this text-only adventure compare quite favourably with many of the more expensive adventures available.

A good solid adventure which will keep many people busy at the keyboard for many enjoyable hours.

Roger Garrett

In one

Program *The Open – Royal Birkdale* **Micro** Spectrum 48K **Price** £4.00 **Supplier** Watsoft, 49 Abbotsview Waddington, East Lothian, EU41 3QU

Before the days of *Hyper Sports* boxing and soccer on the Spectrum there was golf!

Golf, you see, is easily reduced to inputting angle and strength of shot. Of course there's also the choice of club, but apart from that a Basic golf game is fairly easy to write.

Based on the Royal Birkdale course it seems to be an enhanced re-release of a game previously published by CCS. Whatever, it's a traditional version with the above mentioned inputs present like old friends. In addition there's an animated golfer to determine shot type. Press *Space* too late or too soon and you'll hook the ball. On the green it works slightly differently producing a soft, normal or hard putt.

There's a great choice of options, including constant or variable wind speed wet, dry or normal ground, medal or championship tees, and though I'm no golfer it seems to be an accurate simulation of the game's variables. Turn over the tape and there's a choice of match play and handicap games.

I was surprised to find this growing on me, with the miniature golfer adding a welcome physical aspect to the brainwork of judging angles. Up to four can play, which should be fun, and I'd recommend this to those wanting a cerebral yet playable golf game that aims for accuracy.

John Minson

Smaug's bored

Program *Dragons* **Micro** Amstrad CPC **Price** £8.95 **Supplier** Amsoft, Brentwood House, 169 Kings Road, Brentwood, Essex, CM14 4EF

Dragons is a platform and ladders game saved from being immediately consigned to the absolute tedium bin, by some marvelous cute graphics. The dragons of the title appear as long nosed got bellied beasts highly reminiscent of children's TV series such as *Noggin the Nog*. Animation is good as is use of colour – the dragons come in several hues each of which have different characteristics of movement and aggressiveness similar to the ghosts of *Pacman*.

The idea is simple – you must climb around the platforms avoiding being eaten and waiting for a large white dragon which flies along the top of the screen dropping eggs. As long as you aren't hit by an egg you can push them on top of the dragons thoe squashing them. The objective is, of course, to clear the screen. Also dotted around are several gems – collecting all of these turns all the dragons, temporarily, into the least aggressive type but, unfortunately they mutate into a much nastier type afterwards.

It welds themes and elements from a variety of games into what is generally a successful package. However, there are one or two reservations I have about the game design. Unless there is some information missing from the documentation (not unknown with Amsoft games) some parts of the platforms appear to be dead ends with no way of getting back off them, or sometimes to them, making collecting all the gems impossible. Also, although screen one is fairly easy, the second screen seems impossible to survive – it's very unlikely that it is actually impossible but the fact remains that I and several other people have found it so difficult that it rapidly spoilt the enjoyment of the game.

Tony Kendle

The Business

Program *Entrepreneur* **Micro** QL **Price** £39.95 **Supplier** Sinclair Research, 25 Willis Road, Cambridge CB1 2AQ

One of the attractions of computers is their ability to package knowledge in a readily usable form. For example, in assessing the financial aspects of introducing a new product or company, the difficulty is rarely one of conceptual subtlety. Rather, it is the sheer volume of inter-related information and the calculation involved.

QL Entrepreneur packages and inter-relates much technique and knowledge to help the hard pressed manager with a new product or enterprise launch. The teaching program included in the package explains and ensures adequate understanding of assets, liabilities, expenses, overheads and direct costs. The crucial ideas of contribution and break even analysis are thoroughly covered.

This is a valuable educational aid in finance for business managers. For your £40 you get not only a well thought out and concentrated business finance course, but also an easy to use program to apply the techniques learned.

There are in fact two applications programs. In one, the direct or variable costs are entered as a percentage of sale price. Up to 10 percent lines can be handled easily. The other application takes up to 20 direct cost items for just one product, and allows you to specify varying credit terms and invoicing frequency for each of the items. Other reports are your projected final accounts, ratios, and a sensitivity analysis. This last varies the sales, direct costs, wages, expenses and depreciation by 10% either way and calculates the percentage impact on the after tax profits.

The programs and manual were written by Triptych. The QL's windowing and 80 column display have been used to great advantage. The result is a useful and business like management aid which could prove a considerable benefit to a wide range of enterprises.

John Tucker

Challenging

Program *Mount Challenge* **Price** £2.40 **Micro** Spectrum **Supplier** Aasvoquelle, Blakemoor, Marshbrook, Church Stretton, Shropshire

Earth 1967. A strange volcanic mountain has suddenly emerged from shark-infested waters in the South Pacific. Professor Burk determines to be first to climb to the summit.

All very well, but, after all the scene setting this is effectively just another platform game in the *Manic Miner* mould. Whilst not graphically as good as the original few can complain at the £2.40 price.

There are 89 screen which consist of green and red platforms on to which the simply-drawn Professor Burk has to jump, avoiding deadly plants, ghouls and demons. One original part of the game involves the coloured platforms. On the green ones, the professor's jet pack must be turned on to move up or across. Once a red platform is reached the pack can be switched off as normal jumping and moving is again possible. If a double height or length jump is needed whilst on these blocks, the pack must be used again. Clever co-ordination of power on or off is required as the blocks are interwoven.

The game has reasonable sound and smooth graphics and will provide the experienced platform player with a few problems.

Games like this are now rather dated, but cannot be bed for this price.

Andy Moss


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Round Three. What a fight! What a champ! It's a knock-out!

*We know he is the best featherweight, but we thought it was a good line.

Sport

ACTIVISION
HOME COMPUTER SOFTWARE

Wide choice

Program *Timatic Multi-interface* **Micro** Amstrad 464/664/6128 **Price** £89 **Supplier** Timatic Systems, Fareham Market, Fareham, Hants.

Timatic Systems is a name that came to the fore by pioneering the transfer of CP/M programs on to Amstrad discs. Now it has graduated to producing a range of add-on boards to plug some gaps in the hardware capabilities.

The interface board comes in a choice of configurations, but Timatic has found that by offering a variety of ports on one printed circuit-board it can cut out a lot of unnecessary chip duplication and produce a package that, whilst not cheap, seems remarkable value for money. If you buy the board in its most extensive form you get no less than four ports, plus a through bus for the disc drive or whatever. On top of the case are two parallel interfaces – one is just an edge connector of the same form as the normal CPC printer port but this allows full 8-bit codes to be sent which many printers use to control graphic characters. The other parallel port comes in the form of a BBC-style user port allowing easier connection to many BBC peripherals ranging from plotters to robots.

On the right is the RS232 part of the board – there are two channels here, one of which is provided as a standard D connector, and the other is again compatible with BBC-style cables. There is also a small 5 volt external power socket. You may not need to use this, but experience has shown that problems occur if too many peripherals are run off of the Amstrad's expansion connector. Timatic has been clever in developing a system that automatically cuts in if power demand gets too high.

Change channels

In the centre are two sockets for the connection of sideways Roms – one of these comes fitted with a Rom that controls the various outputs of the board, the other can either be left blank for your own use, or can be provided with a copy of the Maxam assembler. The controller Rom gives access to a series of menus and information about the use of the board. It also provides you with some extension commands that allow you to change RS232 channels and baud rates from Basic. Both channels can be set, independently, to any combination of receive and transmit rates you could possibly desire, within the upper limit of the machine's abilities, ie, you aren't limited to the standard 1200/300, etc, of most communications devices. Documentation is adequate, if limited, but there is also some accompanying software that makes controlling baud rate even easier, so there should be few problems.

Switch modes

The value of such a peripheral can seem dubious if you haven't got specific uses in mind but Timatic hasn't been slow to investigate its potential. It has a power supply modification that allows you to run a BBC Cumana graphics touch-pad through their board, together with accompanying software that includes some of the nicest graphics features available on the Amstrad to date, including the ability to switch screen modes without losing the picture on screen.

Timatic can also provide cables and terminal emulation/ communication software that lets you hook your Amstrad up to spectrums (with interface), BBCs or even mainframe computers. You could send text from Spectrum *Tasword* to *Amsword* without having to retype it for instance, access data or programs from an Apricot when you aren't even in the same room, use your 664 or 6128 disc for saving BBC programs or even, if you get a copy of BBC Basic (Z80), stand a reasonable chance of running them on the Amstrad.

The most obvious application is in schools or computer user groups – anyone who has already invested in a range of micros and peripherals and wants to be able to fit Amstrads into the scheme without a lot of duplication of effort and expense. Together the mixture of power and flexibility, ease of use, and continued support from a very active company make this a peripheral that some CPC owners would do well not to miss.

Tony Kendle

Stretched out

Hardware *Double Expander* **Micro** QL **Price** £39.95 **Supplier** Miracle Systems, Avondale Workshops, Woodland Way, Kingswood, Bristol BS15 1QL (0272 603871)

With many disc drive systems and Ram cards as well as other peripheral devices now on the market, the need for multi-bus expansion cards, or motherboards, has arisen.

The are currently two manufacturers of motherboards – CST and Miracle Systems Limited of Bristol. I went for Miracle's *Double Expander* at £39.95 rather than CST's more expensive *Plus 2* at £69.95.

Miracle's card can only be used for arrangements where one of the boards to be plugged into the motherboard is a Ram card. This is because the same peripheral select address is used for both parts. This makes the *Doubler Expander* suitable for, say, 256K Ram and floppy disc interface configurations where Ser1 or Ser2 is being used as the printer port. However, one brand, Simplex Data's 256K cords are not compatible.

Vertical bus

The *Double Expander* comes as a vertical bus, cased in what looks like a bigger version of the ZX81 Ram pack, around six inches wide and three and a half inches high and sticks out of the QL's port at the left-hand side. This doesn't look very stylish and neither is it practical, as I discovered when typing characters at the left of the keyboard, as your hand can easily knock the box.

Inside the *Double Expander* consists of three 64-way Din connectors, two male and one female. The female one connects the motherboard to the QL's main circuit boards via a PCB, which extends through the cavity underneath the keyboard and which is covered in black masking tape. The two male connectors are mounted vertical on the port of the PCB sticking out at the side, to accept cards with matching female connectors.

If you have a need for a simple Ram card and disc interface set-up, at an affordable price, then the *Double Expander* may be ideal.

Alan Turnbull

Mapped out

Hardware *Mapit Mapmaker* **Micro** Any **Price £4.48 Supplier** Mapit, 166 Robert Street, Ynysybwl, Mid-Glamorgan CF3 73E

Mapit takes you one step further on from endless sheets of paper for mapping adventures.

This device consists of a piece of plastic on which is drawn a grid – 13 rectangles by 11 rectangles. Also in the package is a felt tip pen which is easily erasable from the plastic surface with a damp cloth.

Mapit scores over the paper booklets which you can also get to do the same job because It is so easy to wipe off a mistake and start again, and at A3 size a finished map can be photocopied. The snag is that I found I frequently ran out of space on Mapit either because the adventures I tried it on didn't seem to lend themselves to a 13 × 11 rectangle or because the centre of the adventure was offset from where I started in the centre of the board. And, of course, you can't just stick on another sheet of paper.

At £4.48, it is slightly expensive for its usefulness, but fanatical adventurers may well find it handy for at least the initial mapping, when mistakes are more likely to be made.

Christine Erskine

Smasher

A sophisticated version of Breakout for Amstrad owners – written by A Williams

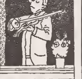
Smasher is a version of *Breakout*, but containing a new command (Scroll) as printed in *Popular Computing Weekly* Vol 4 No 6

It also contains a subroutine for writing twice normal size, background music, a high score table, joystick or keyboard control and nine skill levels

Type in Program One, and save to a blank tape with Speed Write 1: Save "Smasher 1". Reset the computer, and type in Program Two, and save straight after Program One with Speed Write 1 Save "Smasher 2". Rewind the tape, and the whole program will run with Run.

This week we present Program One and part of Program Two. Next week, the rest of Program Two.

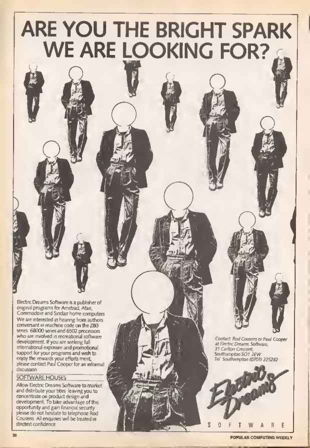
For those who do not wish to type in the listing, I can supply a copy for £1.00 if you send me a blank tape and your name and address. Write to me at 122 Caledonian, Glascote Heath, Tamworth, Staffs, B77 2EH.



```
5 REM ***PROGRAM ONE***
8 '
10 MODE 1:INK 0,0:BORDER 0
20 INK 1,24:INK 2,22:INK 3,26:INK 4,0:INK 5,10:INK 6,
9,6:INK 7,6,9
30 SYMBOL AFTER 32
40 PAPER 5:LOCATE 1,1:PRINT STRING$(120,32);
50 SYMBOL ASC("a"),255,255,56,56,56,56,63,63
60 SYMBOL ASC("b"),224,224,128,128,128,128,128,128
70 PEN 4
80 SYMBOL ASC("c"),56,56,56,56,254,254
90 X=5:Y=2:I$="ab":GOSUB 300
100 X=5:Y=4:I$="c":GOSUB 300
110 FOR I=136 TO 180:PLOT I,340,4:DRAW I,300:NEXT
120 I$="OLYSOFT":X=7:Y=3:GOSUB 300
130 PAPER 0
140 I$="#PRESENTS#":X=5:Y=10:PEN 2:GOSUB 300
150 I$="SMASHER":X=8:Y=14:PEN 6:GOSUB 300
160 PEN 5:LOCATE 5,12:PRINT CHR$(150);STRING$(8,154);
CHR$(156)
170 Y=17:PEN 7:GOSUB 300:PEN 1
180 PRINT CHR$(22)+CHR$(1)
190 LOCATE 5,14:PRINT CHR$(149);"        ";CHR$(149):
REM 8 SPACES
200 LOCATE 5,15:PRINT CHR$(149);"        ";CHR$(149)
210 LOCATE 5,16:PRINT CHR$(147);"        ";CHR$(153):
LOCATE 5,16:PRINT CHR$(150);"        ";CHR$(156)
220 LOCATE 5,17:PRINT CHR$(149);"        ";CHR$(149)
230 LOCATE 5,18:PRINT CHR$(149);"        ";CHR$(149)
240 LOCATE 5,19:PRINT CHR$(147);STRING$(8,154);CHR$(1
53);CHR$(22);CHR$(0)
250 SYMBOL ASC("l"),0,124,124,16,16,16:SYMBOL ASC("m"
),0,127,127,73,73,60
260 LOCATE 1,20:PEN 2:PRINT STRING$(100,143)
270 PAPER 2:PEN 0:I$=CHR$(164)+" A.WILLIAMS":X=3:Y=22
:GOSUB 300
280 X=18:Y=2:PAPER 5:I$="lm":GOSUB 300
290 SYMBOL AFTER 32:RUN "!SMASHER 2"
300 LARGE=42279
310 LOCATE X,Y:FOR ABC=1 TO LEN(I$):T=LARGE+8*(ASC
(MID$(I$,ABC,1))-32)
320 A1=PEEK(T):A2=PEEK(T+1):A3=PEEK(T+2):A4=PEEK(T
+3)
330 A5=PEEK(T+4):A6=PEEK(T+5):A7=PEEK(T+6)
340 SYMBOL 248,0,A1,A1,A2,A2,A3,A3,A4
350 SYMBOL 249,A4,A5,A5,A6,A6,A7,A7,0
360 PRINT CHR$(248);CHR$(10);CHR$(8);CHR$(249);CHR$(1
1);
370 NEXT
380 RETURN
```

```
5 REM ***PROGRAM TWO***
10 ENT 6,15,-1,10
20 ENV 7,15,-1,10:ENV 8,15,-1,2
```

```
30 PAPER 0
40 FOR T=1 TO 10:NAME$(T)="POLY SOFT.":HI(T)=11-T:NE
XT
50 ENT 2,15,10,10:ENV 2,15,-1,10
60 SYMBOL AFTER 32
70 POKE &BDEE,195
80 DIM A(7,8)
90 CLS:INK 0,0:BORDER 0
100 RESTORE
110 FOR T=1 TO 7:FOR Y=1 TO 8:READ A(T,Y):NEXT:NEXT
120 DATA 60,102,96,60,6,102,60,0
130 DATA 198,238,254,254,214,198,198,0
140 DATA 24,60,102,102,126,102,102,0
150 DATA 60,102,96,60,6,102,60,0
160 DATA 102,102,102,126,102,102,102,0
170 DATA 254,98,104,120,104,98,254,0
180 DATA 252,102,102,124,108,102,226
190 DATA 0
200 REM ANIMATION OF FIGURE AND TITLE SCREEN
210 FOR I=48 TO 57:READ A,S,D,F,G,H,J,K:SYMBOL I,S,D
,F,G,H,J,K,A:NEXT
220 DATA 0,60,66,66,90,98,98,60,0,8,8,8,12,12,12,12,
0,124,2,2,60,96,96,62,0,124,2,2,60,6,6,126,0,64,90,1
00,100,126,4,4,0,62,64,64,60,6,6,126,0,62,64,64,124,
70,70,126,0,120,8,8,12,12,12,12,0,60,66,66,60,70,70,
60,0,60,66,66,60,6,6,126
230 SYMBOL 164,126,129,189,161,189,129,126
240 GOSUB 830
250 DIM BRICK(20,20):BRICKGO=100
260 RESTORE 1740
270 BALUD=1:XPO=10:YPO=10
280 XPOB=10:BAT$=CHR$(245)+CHR$(245)
290 MODE 0
300 X$="ENTER SKILL LEVEL..."
310 X=1:Y=2:PEN 1:GOSUB 1390
320 X$="1=HARD........9=EASY":X=1:Y=5:PEN 2:GOSUB 13
90
330 X$=">":X=1:Y=23:PEN 3:GOSUB 1390
340 A$="":WHILE A$="":A$=INKEY$:BORDER RND*26
350 WEND:IF INSTR("123456789",A$)=0 THEN 340
360 MODE 0:X=2:PEN 4:X$=A$:GOSUB 1390
370 SKILL=INSTR("123456789",A$)
380 DELAY=(SKILL*10)-10
390 BONUS=((9-SKILL)*10)*10
400 GOSUB 1390:BALM=1
410 MODE 0:SYMBOL 233,0,126,126,126,126,126,126,0
420 POKE &BDEE,201
430 BORDER 0
440 FOR T=1 TO 5:FOR S=1 TO 20:LOCATE S,T+4:PEN T:PR
INT CHR$(233);BRICK(T+4,S)=1:NEXT S,T
450 FOR T=1 TO 3:FOR Y=1 TO 4:BRICK(T,Y)=0:NEXT Y,T
460 FOR T=1 TO 20:FOR Y=1 TO 20:BRICK(T,Y)=1:NEXT:NE
XT:MUSIC=0
470 X$="SCORE :":X=1:Y=1:PEN 7:GOSUB 1390
480 X$="LIVES":X=13:Y=1:GOSUB 1390
490 DEF FN X1$=RIGHT$(STR$(POIN),(LEN(STR$(POIN))-1)
500 SC=0:LI=5:POIN=SC:PEN 8:X=8:X$=FN X1$:GOSUB 1390
510 X=20:POIN=LI:X$=FN X1$:GOSUB 1390
520 BRICKGO=120
530 INK 9,18,2
540 BRICKSC=1240
550 PEN 9:X=1:Y=21:X$="ANY KEY TO CONTINUE.":GOSUB 1
390:LOCATE 1,20:PRINT CHR$(22);CHR$(1):BULUD=1
560 X$="   ":PEN 10:X=4:GOSUB 1390:PRINT CHR$(22)+CH
R$(0)
570 REM THE GAME
580 BALX=10:BALY=10
590 X=1:BATX=10:WHILE INKEY$="":WEND:X$=STRING$(20,3
2):GOSUB 1390
600 REM SCAN KEYBORD/JOYSTICK
610 IF INKEY$=CHR$(252) THEN 1480
620 IF INKEY(18)=0 THEN IF MUSIC=0 THEN MUSIC=1 ELSE
 MUSIC=0
630 IF INKEY(79)=0 THEN WHILE INKEY(16)<>0:GOSUB 248
0:WEND
640 IF INKEY(L1)=0 AND BATX>1 THEN LOCATE BATX,24:PR
INT "  ":BATX=BATX-1
650 IF INKEY(RI)=0 AND BATX<19 THEN LOCATE BATX,24:P
RINT "  ":BATX=BATX+1
660 REM MOVEMENT OF BAT+BALL
670 IF BALM THEN BAL=INT(RND*10)
680 LOCATE BALX,BALY:PRINT " "
690 LOCATE BATX,24:PEN 3:PRINT BAT$
700 BALY=BALY+BALUD
710 IF BALY=24 AND (BALX=BATX OR BALX=BATX+1) THEN S
OUND 4,200,2,15:BALUD=-1:BALM=INT(RND*10):LOCATE BAL
X,BALY:PRINT " ":GOTO 730
720 IF BALY=24 AND (BALX<>BATX OR BALX<>BATX+1) THEN
 GOSUB 1530:REM LOSE A LIVE
730 IF BALM>7 THEN BALX=BALX+1
740 IF BALM>4 AND BALM<=6 THEN BALX=BALX-1
750 IF BALX<1 THEN BALX=1:BALM=9:SOUND 4,200,2,15
760 IF BALX>20 THEN BALX=20:BALM=5:SOUND 4,200,2,15
770 LOCATE BALX,BALY:PEN 2:PRINT CHR$(231)
780 IF MUSIC THEN ON SQ(1) GOSUB 1690:REM MUSIC
790 REM HIT A BRICK
800 IF BALY<10 THEN GOSUB 1780
810 IF BALY=4 THEN BALUD=1:BALM=INT(RND*10)
820 GOTO 610
830 REM TITLE SCREEN
840 POKE &BDEE,195
850 MODE 0:INK 1,6:INK 2,22:INK 3,2:INK 4,5:INK 5,26
:INK 6,24:INK 7,15
860 REM ANIMATION
870 X=6:FOR T=1 TO 7
880 SYMBOL 200,A(T,8):X=X+1:Y=2:PEN T:X$=CHR$(200):G
OSUB 1390:GOSUB 1380
890 SYMBOL 200,A(T,7),A(T,8):X$=CHR$(200):GOSUB 1390
:GOSUB 1380
900 SYMBOL 200,A(T,6),A(T,7),A(T,8):X$=CHR$(200):GOS
UB 1390,1180
910 SYMBOL 200,A(T,5),A(T,6),A(T,7),A(T,8):X$=CHR$(2
00):GOSUB 1390,1380
920 SYMBOL 200,A(1,4),A(T,5),A(T,6),A(T,7),A(T,8):X$
=CHR$(200):GOSUB 1390,1380
930 SYMBOL 200,A(1,3),A(T,4),A(T,5),A(T,6),A(T,7),A(
T,8):X$=CHR$(200):GOSUB 1390,1380
940 SYMBOL 200,A(T,2),A(T,3),A(T,4),A(T,5),A(T,6),A(
T,7),A(T,8):X$=CHR$(200):GOSUB 1390,1380
950 SYMBOL 200,A(T,1),A(T,2),A(T,3),A(T,4),A(T,5),A(
T,6),A(T,7),A(T,8):X$=CHR$(200):GOSUB 1390,1380
960 NEXT
```



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Name, rank and number

*The numbers game explained on the Commodore 64 with the aid of **Peter Graves***

Numerology assigns the numbers one to 26 to the letters of the alphabet A numerical value can be found for any name by adding the single digits for each letter and reducing the total to a single digit by repeatedly adding the digits of the number For example, a name number of 92 reduces to 11 (9+2) and finally reduces to 2 (1+1) From the final digit numerologists make deductions about the characteristics of the named person.

Any attempt to check the claims of numerology involves much tedious calculation of these name numbers The program below will find the final numerological digit of any inputted word. The input string is taken character by character, ignoring spaces and other non-alpha characters The numerological value of the character is found by first adding its *ASCII* value and subtracting 64 so that A=1, B=2 and so on. Then, using the subroutine starting at Line 250 two digit numbers are reduced to a single digit The subroutine has no effect on a single digit number The final single digit is added to a running total ('T') which is also reduced to a single digit by the subroutine once all the characters in the input string have been processed The final result is then printed out

The input to the subroutine is always a number ('B') To reduce it to a single digit it is converted to a string (*D$*) and the value (using the *Val* function) of each character of the string is added to running total ('*C*') The first character of *D$* is ignored When the *Str$* function is used the first character of the string is blank for positive numbers (the space is left for the + sign but it is not actually printed out) If the final value of '*C*' is more than 9 (ie, '*C*' has more than one digit) the subroutine is used again until it is reduced to a single digit Whether or not numerology has any validity is not a question that can be tackled here! You are referred to books on the subject and you will have to make your own mind up

Program Notes

- **100–120** Set up screen, border and cursor colours, initialise variables
- **130** Input name
- **140–190** Take each character of *N$* in turn, find its *ASCII* value, subtract 64 so that A=1, etc
- **170** Reduce to a single digit using subroutine (Line 250) Numbers that are already a single digit are not affected.
- **180** '*C*' is the reduced single digit, it is added to the running total '*T*'.
- **200–220** When all the characters have been processed reduce '*T*' to a single digit, print out result and go back to 130 for more.
- **250–310** Subroutine to convert multi digit numbers to a single digit by adding the digits without regard to their place value
- **260** Convert the number inputted to the subroutine ('*B*') to a string ('*D$*') Zero the subroutine running total ('*C*')
- **270–290** Take each character of *D$* in turn (ignoring the first one) convert it back to a number and add it to the running total '*C*'
- **300** If '*C*' has more than two digits repeat the process by making *D$* = *Str$(C)* and using the subroutine again The final single digit will be in '*C*'

```
10 REM NUMEROLOGY BY PETER GRAVES
20 REM
100 POKE 53280,6:POKE 53281,7:PRINT "♥"
110 POKE 646,0
120 T=0 C=0
130 INPUT "XXENTER NAME.".N$
140 FOR N=1 TO LEN(N$)
150 B=ASC(MID$(N$.N.1))-64
160 IF B<1 OR B>26 THEN 190
170 GOSUB 250
180 T=T+C
190 NEXT
200 B=T GOSUB 250
210 PRINT "XNUMEROLOGICAL VALUE =",C
220 GOTO 120
250 REM SIMPLIFY TO A SINGLE DIGIT
260 D$=STR$(B)'C=0
270 FOR M=2 TO LEN(D$)
280 C=C+VAL(MID$(D$,M,1))
290 NEXT
300 IF C>9 THEN D$=STR$(C)'C=0 GOTO 270
310 RETURN
400 REM
410 REM ************************
420 REM *                      *
430 REM *                      *
440 REM *  PETER GRAVES        *
450 REM *  WESTBOURNE GROVE    *
460 REM *  WESTCLIFF ON SEA    *
470 REM *  ESSEX               *
480 REM *                      *
490 REM *  1985                *
500 REM *                      *
510 REM ************************
```

Learning by example

You've typed in the code, now try the demo – more ZX! Basic by ***Stuart Nicholls***

Having entered the machine code from the previous articles and hopefully managed to get everything running correctly, perhaps you are still a little unsure of some of the commands or would like to see it in action as quickly as possible. With this in mind I have put together a series of short demonstration programs to give you some idea of the potential of ZX! Basic.

The majority of the programs are of a graphics nature and produce striking patterns in just a few lines (virtually impossible in ordinary Spectrum Basic). Several of the programs deal with text and animation.

The line numbers are unimportant, but as they stand allow the programs to be 'merged' together to form one long demonstration.

I hope that you will enjoy using ZX! Basic and that your programs will benefit from the extra commands now available.

NB Coming to this magazine soon — a ZX! Basic Sprite designer.

```
PROGRAM 1

 50 PAPER 7: INK 1: BORDER 1
 90'E
 100 FOR A=1 TO 50 STEP 2
 110'B50-A,50-A,52+A*4,52+A*2
 120 NEXT A
 150 PAUSE 100

PROGRAM 2

 200 PAPER 0: INK 6: BRIGHT 1: BORDER 0
 210'E
 220'B0,0,255,191
 230 FOR A=1 TO 200 STEP 3
 240'BA,A,255-A,191-(191/255*A)
 250 NEXT A
 260 PAUSE 100

PROGRAM 3

 300 OVER 1: PAPER 7: INK 0: BRIGHT 1: BORDER 7
 305'E
 310'B0,0,255,191
 320'P0,95
 330 FOR A=1 TO 255 STEP 2
 340'B255-A,191-(191/255*A),A,95+90*SIN (A/32*PI)
 350 NEXT A
 360 PAUSE 100

PROGRAM 4

 400 OVER 0: PAPER 7: INK 2: BRIGHT 1
 410'E
 420'B0,0,255,191
 430 FOR A=1 TO 255 STEP 2
 440'CA,95+90*SIN (A/44*PI),180/255*A
 450 NEXT A
 460 PAUSE 100

PROGRAM 5

 500 OVER 0: PAPER 4: INK 1: BRIGHT 1
 510'E
 520'B0,0,255,191
 530 FOR A=1 TO 100 STEP 2
 540'C127,87+80*SIN (A/128*PI),A
 550 NEXT A
 560 PAUSE 100

PROGRAM 6

 600 PAPER 7: INK 0: BRIGHT 1: OVER 0
 612'E
 625 FOR B=1 TO 5
 630 FOR A=1 TO 7
 635'B0,0,255,191
 640'C INK RND*5,RND*255,RND*191,RND*70+10
 650 NEXT A
 660'I500*255,95,RND*6+120
 670 PAUSE 100
 675'E
 680 NEXT B
 690 PAUSE 100

PROGRAM 7

 700 PAPER 0: INK 7: BRIGHT 1: BORDER 0
 705'E
 710'P0,0
 720 FOR A=0 TO 127 STEP 6
 730'M255-A,191/255*A:'M255-A,191-191/255*A:'MA,191-191/255*A:'MA,191/255*A+4
 740 NEXT A
 750'I0,2,120
 760 PAUSE 100

PROGRAM 8

 800 OVER 0: PAPER 7: INK 2: BRIGHT 1: BORDER 7
 812'E
 815 FOR B=1 TO 4
 820 FOR A=1 TO 200 STEP 5
 825 INK RND*6
 830'BA,191/255*A,255-A,191-191/255*A
 840 NEXT A
 845 FOR A=1 TO 127 STEP 10
 860'IA+2,191/255*A+2,RND*5+100
 870 NEXT A
 880 FOR A=1 TO 120
 890'W0,0,32,96,1,1
 895'W0,96,32,96,1,0
 900 NEXT A
 910 FOR A=1 TO 96
 920'W0,0,16,192,1,2
 925'W16,0,16,192,1,3
 927 OVER 1
 930 NEXT A
 940 FOR A=1 TO 255
 950'DA
 960 NEXT A
 970 NEXT B

PROGRAM 9

1000 OVER 0: BORDER 2: PAPER 2: INK 7: BRIGHT 0
1010'E
1015'P0,191:'M255,191
1017'P0,0:'M255,0
1020'P0,96
1030 FOR A=1 TO 255 STEP 3
1040'MA,96+90*SIN (A/64*PI)
1050 NEXT A
1060 FOR A=0 TO 255
1070'PA,96
1080'MA,96+90*SIN (A/64*PI)
1090 NEXT A
1100 PAUSE 100
1110 FOR A=1 TO 32
1120'W0,96,32,96,1,0
1130'W0,0,32,96,1,1
1140 NEXT A
1145'I0,1,23
1150 PAUSE 100

PROGRAM 10

1200 BRIGHT 0: PAPER 7: INK 1: BORDER 1
1210'E
1220'B0,0,255,191
1230 FOR A=0 TO 135 STEP 2
1240'PA,0
1250'M255,191/255*A
1260'M255-A,191
1270'M0,191-191/255*A
1280'MA,0
1290 NEXT A
1295'I127,96,57
1300 PAUSE 100
1310'D7
1315 BORDER 7
1320 PAUSE 150

PROGRAM 11

1400 PAPER 7: INK 0: BRIGHT 1
1410'E
1420'B0,0,255,191
1430'F1,15,0,0,11,10,0,4
1440 FOR A=1 TO 16
1450'DA,0
1460 NEXT A
1465'A1
```

```
1470!F2,7,1,0,0,88,0,16
1475'F3,3,1,0,10,6,0,16
1480'01,1:'03,1:!03,1
1488 OVER 1
1490 FOR A=1 TO 38
1500'P137,101
1510'D INK 31288,0
1520!810,23,1,20
1530 NEXT A
1550'63,0
1560!02,0
1570!01,0
1580 PAUSE 100
1590:R0

PROGRAM 12

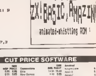
1600 PAPER 6: INK 0: OVER 0: BRI
GHT 1
1610!E
1620!80,0,255,191
1625!N"MOVE MAN ACROSS THE ROAD"
,32,25,2,1
1630 FOR A=1 TO 16
1640'OR,0
1600 NEXT A
1655!F16,7,0,0,21,15,0,16
1660 FOR A=1 TO 15 STEP 2
1670'FA,255,0,255,A,38,0,4
1680 NEXT A
1685'A1
1687 PAUSE 250
1690 FOR A=1 TO 15 STEP 2
1700'BA,1
1720 NEXT A
1725!816,1
1730 FOR A=1 TO 38
1735 FOR B=1 TO 15 STEP 2
1740'B5B,3,58,7
1750!H8,INT (RND*31+1)
1255 IF PEEK 61100 THEN !8100,50
0,100,200
1760 NEXT B
1770 NEXT A
1790'R0
1800 FOR A=1 TO 500: NEXT A
1810'E
1820'N"GAME OVER",58,100,3,2
1830 PAUSE 100

PROGRAM 13

1900 PAPER 7: INK 0: BRIGHT 1
1910'E
1915'80,0,255,191
1920'N"This is a",16,138,2,3
1930 INK 6: PAPER 2
1940'N"FLASHING",32,106,0,3
1950 INK 0: PAPER 4
1960'N"Message!",64,60,3,2
1970 FOR A=1 TO 10
1980'V66,03
1990 PAUSE 20
2000'V82,80
2005 PAUSE 25
2010 NEXT A

PROGRAM 14

2100 PAPER 7: INK 0: BRIGHT 1: B
ORDER 7
2105!E
2110'80,0,295,191
2115'N"THE",80,188,3,4
2120 FOR A=0 TO 265 STEP 16
2130 READ A$
2140'NA$,A,150+RND*24,RND*4+7,2
2150 NEXT A
2160 DATA "Z","X","!","B","A","S
","I","C",",","A","M","A","Z","I
","N","G"
2165!N"animated-whistling ROM !"
,32,60,4,1
2168 PAUSE 100
2170 FOR A=1 TO 255
2180'U0
2190 LET B=PEEK (A+1000): LET A=
B9(B<9B)+1
2200!33,B,B+15,B
2210!W8,1,32,198,1,3
2220 NEXT A
2230!556
2240 FOR A=1 TO 100
2250'W8,0,16,80,0,1
2260'W8,0,16,96,0,3
2270'W16,0,16,96,0,B
2280'W16,8,16,96,0,3
2290'W8,96,16,96,0,2
2300'W8,96,16,96,0,1
2310'W16,96,16,96,0,2
2320'W16,96,16,96,0,0
2330 NEXT A
2340'N"THE END",48,150,0,3
2350 PAUSE 0
```





Living by numbers

*A machine code to Data statement converter brought to you by **Alan Turnbull***

For freelance contributors like myself who produce machine code programs, there is also a need to provide a Basic loader with the machine code bytes in Data statements for readers who do not own assemblers. The production of such Data statements may be easy for short programs but for long machine code utilities, it would be nice to have a way of automating the process.

In this article, I present just such a utility – written initially in QL SuperBasic and then translated into Motorola MC68008 assembly language to speed it up, presented as Data statements!

The SuperBasic program will ask you for the name of the machine code file you wish to convert and then asks for the name of the destination file in which it will create a SuperBasic program of Data statements. The program reads bytes of machine code and outputs them as justified formatted Data items, 10 per Data statement. When finished, the destination file may be *Loaded* or *Merged* into the QL as a SuperBasic program and renumbered.

```
100 REMark SuperBASIC program to implement MC68008 routine
110 REMark        COPYRIGHT (c)       1985, Alan Turnbull, B.Sc.
120 :
130 LET reserved_address=RESPR(512)
140 RESTORE
150 LET address=reserved_address
160 REPeat read_and_store_machine_code
170   IF EOF THEN EXIT read_and_store_machine_code
180   READ machine_code_byte
190   POKE address,machine_code_byte
200   LET address=address+1
210 END REPeat read_and_store_machine_code
220 CLS
230 CALL reserved_address
240 :
250 DATA 118, 255,  32, 124,   0,   1,   0,   1,  67, 250
260 DATA   1,  64,  82, 120,   0, 208,  78, 145, 102,   0
270 DATA   0, 176, 116,  43, 112,   2,  67, 250,   1, 130
280 DATA  78,  67,  74, 128, 102,   0,   0, 160,  83,  65
290 DATA  67, 250,   1, 114,  50, 124,  67, 250,   1,  62
300 DATA  52, 120,   0, 208,  78, 146, 102,   0,   0, 132
310 DATA 112,   2,  67, 250,   1, 138,  78,  67,  74, 128
320 DATA 102, 124,  83,  63,  67, 250,   1, 124,  00, 129
330 DATA  65, 250,   1,  74, 118,   0, 114,   0, 112,   1
340 DATA  78,  66,  74, 128, 102, 100,  40,  72,  65, 250
350 DATA   1, 100, 118,   2, 112,   1,  78,  66,  74, 128
360 DATA 102,  84,  42,  72, 118, 255,  62,  60,   3, 232
370 DATA  97, 106, 103,  70,  74, 128, 102,  68,  97,   0
380 DATA   0, 132, 102,  62,  97, 106, 102,  88,  97,   0
390 DATA   0, 136, 102,  52, 124,   1,  97,  80, 103,  34
400 DATA  74, 128, 102,  42, 188, 124,   0,  10, 103,  24
410 DATA 114,  44,  97,  88, 102,  30, 114,  32,  97,  82
420 DATA 102,  24,  97,  68, 102,  20,  97,  78, 102,  16
430 DATA  82,  70,  96, 218, 114,  10,  97,  66, 102,   6
440 DATA  82,  71,  96, 162, 112,   0,  47,   0,  32, 124
450 DATA   0,   1,   0,   1, 112,  15,  78,  67,  32,  77
460 DATA 112,  65,  78,  67, 112,   2,  78,  65,  32,  76
470 DATA 112,   2,  78,  65,  32,  31,  78, 117,  32,  76
480 DATA 112,   0,  78,  67, 176, 188, 255, 255, 250, 248
490 DATA  78, 117,  32,  76, 112,   1,  78,  67,  74, 128
500 DATA  78, 117,  32,  77, 112,   5,  78,  67,  74, 128
510 DATA  78, 117,  50,   7,  97,  34, 102,   6,  67, 250
520 DATA   0, 134,  97,  38,  78, 117,  26,   1, 186,  60
530 DATA   0, 100, 100,  18, 114,  32,  97, 250, 102,  18
540 DATA 184,  60,   0,  10, 100,   4, 114,  32,  97, 208
550 DATA 102,   6, 114,   0,  18,   5,  97,  12,  78, 117
560 DATA  32,  77,  52, 120,   0, 208,  78, 145,  78, 117
570 DATA  32,  77,  52, 120,   0, 206,  78, 146,  78, 117
580 DATA   0,  34,  68, 101, 118, 105,  99, 101,  47, 110
590 DATA  97, 109, 101,  32, 111, 102,  32, 109,  97,  99
600 DATA 104, 105, 110, 101,  32,  99, 111, 100, 101,  32
610 DATA 102, 100, 108, 101,  63,  10,   0,  36,  68, 101
620 DATA 118, 100,  99, 101,  47, 110,  97, 109, 101,  32
630 DATA 111, 102,  32, 100,  97, 116,  97,  32, 115, 116
640 DATA  97, 116, 101, 109, 101, 110, 116,  32, 102, 105
650 DATA 108, 101,  63,  10,   0,   6,  32,  68,  65,  84
660 DATA  65,  32,   0,   0,   0,   0,   0,   0,   0,   0
670 DATA   0,   0,   0,   0,   0,   0,   0,   0,   0,   0
680 DATA   0,   0,   0,   0,   0,   0,   0,   0,   0,   0
690 DATA   0,   0,   0,   0,   0,   0,   0,   0,   0,   0
700 DATA   0,   0,   0,   0,   0,   0,   0,   0,   0,   0
710 DATA   0,   0,   0,   0,   0,   0,   0,   0,   0,   0
720 DATA   0,   0,   0,   0,   0,   0,   0,   0,   0,   0
730 DATA   0,   0,   0,   0,   0,   0,   0,   0,   0,   0
740 DATA   0,   0,   0,   0,   0,   0,   0,   0,   0,   0
```

```
100 REMark SuperBASIC program to convert machine code to DATA statements
110 REMark          COPYRIGHT (c)       1985, Alan Turnbull, B.Sc.
120 :
130 DEFine PROCedure JUSTIFY(channel,byte)
140   IF byte<100 THEN PRINT #channel;" ";
150   IF byte<10 THEN PRINT #channel;" ";
160   PRINT #channel;byte;
170 END DEFine JUSTIFY
180 :
190 MODE 4
200 CLS
210 LET line_no_inc=1
220 LET data_per_line=10
230 INPUT "Machine code file   ? ";machine_code_file$
240 INPUT "Data statement file ? ";data_statement_file$
250 OPEN_IN #4,machine_code_file$
260 OPEN_NEW #5,data_statement_file$
270 LET line_no=1000
280 REPeat generate_data_statements
290   IF EOF(#4) THEN EXIT generate_data_statements
300   PRINT #5;line_no;" DATA ";
310   JUSTIFY 5,CODE(INKEY$(#4))
320   LET item_count=1
330   REPeat generate_data_item
340     IF EOF(#4) OR item_count=data_per_line THEN EXIT generate_data_item
350     PRINT #5;", ";
360     JUSTIFY 5,CODE(INKEY$(#4))
370     LET item_count=item_count+1
380   END REPeat generate_data_item
390   PRINT #5
400   LET line_no=line_no+line_no_inc
410 END REPeat generate_data_statements
420 CLOSE #5
430 CLOSE #4
```

SUMMER SALE!

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Justified figures

Print a handy number conversion table on the BBC B – from ***John Beckatt*** *and* ***Petar Ranwick***

This program prints columns of justified figures Each column contains the decimal, binary, hexadecimal and ASCII printable character set, for that value You can print in two, four or eight columns depending on the width of your printer – four should be selected for an 80 column printer

The program is set up for Epson compatible printers

Program Notes

Def Procintro – This procedure is used to print anything contained in the string l$, at position x, y on the screen.

Def Procsetup – This procedure sets up the various printer facilities It is well documented by *Rem* statements if the control codes on your printer are different to the Epson compatible ones listed on the program

Def Procdisplay(U) – This procedure will print the U'th number of tables

Def Fnb(c) – This function will display any number contained in the brackets as its binary equivalent

```
10REM Conversion Table
20REM Electron/B0C 0
30REM Epson and compatable printers
40REM John T W Beckett/
      Peter D Renwick
50DN ERRDR GOTO 540
60MODE4:PROCintro
70V=0
00REPEAT
90PROCsetup
100PROCdisplay(N)
110V=V+1:UNTIL V=X
120CLS:*FX15,1
130PRINT'"Continue ";:X$=GET$
140IF X$="Y" OR X$="y" GOTO60
150END
160DEFPROCdisplay(U)
170FOR N=0 TO (256/U)-1
180FOR F=N TO N+(256-(256/U))
        STEP (256/U)
190B$=CHR$(F)
200IF F<32 OR F>126 B$=" "
210PRINT F;SPC(2);FNB(F);SPC(2);
220IF F<16 PRINT"0";
230PRINT"";~F;SPC(2);B$;
240NEXT:PRINT:NEXT
250VDU3:ENDPROC
260DEF FNB(c)
270a$=""
200FOR i=7 TO 0 STEP -1
290a$=STR$(c-2*(c DIV 2))+a$
300c=c DIV 2:NEXT
310=a$
320DEFPROCsetup
330VDU2,1,12         :REM form feed
340VDU1,10 :REM Condensed off
350VDU1,27,1,07,1,1:REM Enlarge on
360PRINT TAB(2);c$'
370VDU1,27,1,07,1,0:REM Enlarge off
380VDU1,15 :REM Condensed on
390ENDPROC
400DEFPROCintro
410VDU23,1,0;0;0;0;0
420c$="Conversion Table":
   PROCd(c$,10,1)
430PRINT'"This program providee
   the user with a"
440PRINT'"handy reference table of
   number bases.
450VDU20,0,31,39,10
460INPUT'"How many columns "N
470IF NOT(N=2 OR N=4 OR N=8)
   VDU7:GOTO460
480INPUT'"How many copies "X
490IF X<1 VDU7:GOTO480
500CLS
510PRINT'TAB(5)"Your table is
   being printed"'
520VDU2,1,27,1,82,1,0,3:
   REM USA char
530ENDPROC
540VDU3
550IF ERR=17 GOTO120
560REPORT:PRINT" at line ";ERL'
570OSCLI("KEY0 LIST"+STR$ERL+"|M")
580*FX138,0,128
590END
600DEFPROCd(l$,x,y)
610A%=&A:X%=0:Y%=&9:Z=&900
620FOR b=1 TO LEN(l$)
630?Z=ASC(MID$(l$,b,1)):CALL&FFF1
640VDU23,224,Z?1,Z?1,Z?2,Z?2,Z?3,
   Z?3,Z?4,Z?4
650VDU23,225,Z?5,Z?5,Z?6,Z?6,Z?7,
   Z?7,Z?8,Z?8
660PRINT TAB(x+b,y);CHR$224;
   TAB(x+b,y+1);CHR$225
670NEXT:ENDPROC
```

The Music Box



All at sea

When the Oxford University Press publishes a book on computer music, you know that the subject has come of age. This worries me since, try as they might, the OUP remains tied to its elitist traditions.

That said, one would hope that elitism would at least be an assurance of quality and comprehensiveness — especially in a book priced at £19.50. I have to report, with some regret, that Peter Manning's *Electronic and Computer Music* is far from a definitive text.

Manning has been Senior Experimental Officer in Music at Durham University since 1973 and he has been responsible not only for developing the University's facilities and resources, but also for promoting music events in and around Durham. His experience and knowledge are clearly both extensive, but the feeling I get from reading his book is somehow of a man at sea.

The book is clearly aimed at the musician, rather than the computer or electronics expert, and its coverage of technology and practical technique is sketchy. Where Manning comes into his own is in providing detail about the history and style of so-called 'serious' work in electronic and computer music. Unfortunately, even here he fails to provide an overview, sometimes getting bogged down in names, dates and descriptions of works.

I found it alarming at this time and in this field that anyone could be quite so dismissive of the contribution to the field by pop and rock musicians. 'Groups of performers concerned with a very limited range of musical styles' is how Manning describes the pop and rock world — which, from Abba to Zappa, has produced more innovative electronic and computer music in the past 30 years than, I dare say, all the classical studios in the world have done since the first electronic instrument.

A partial list of omissions might serve to indicate the extent of Manning's elitism: Les Paul, Leo Fender, Phil Spector, Beaver and Krause, John Lennon and Yoko Ono, Stevie Wonder, the Monkees (who first used a Moog synthesiser on record in 1967), Vangelis, Trevor Horn, mixing desks, record production. He seems never to have heard of a tremolo arm on a guitar and apparently believes that Rick Wakeman is called Rick Waterman.

In short, Manning reveals an unwarranted prejudice against music produced in popular or commercial contexts. While he waxes lyrical about the possibilities of digital technology, he avoids any mention of programmable sound generators or the tide of sophisticated musical software now available for home micros and personal computers. Jack Tramiel has proved to have his finger more firmly on the pulse of computer music by building-in Midi to the Atari 520ST.

Instructive as it is to read about the work of experimental pioneers in the field, the book remains incomplete, hopelessly inadequate and definitely overpriced.

Gary Herman

The Music Box is a weekly column with news, reviews and readers comments on all aspects of micros and music.

Any readers with experience of computer music making or companies with new product news are invited to write to drop a line explaining what they're doing to Gary Herman, The Music Box, 12-13 Little Newport Street, London WC2H 7LD.

Book *Forward 100* **Price** £8.95 **Micro** Any **Supplier** Penguin Books Ltd, Harmondsworth, Middlesex.

Considering the number of books recently, the Logo cult must be gaining momentum. Of these many are guides to 'turtle training' for bewildered parents and even teachers suddenly faced with a micro. The potential for failure by such novices who don't realise that Logo is far more than just another language is highlighted in *Forward 100*.

Ray Hammond doesn't list programs, but discusses the philosophy of the language with practical examples from educational case histories, a philosophy which includes learning by experimentation and discovery. In doing so he presents a picture of Logo-based schools in a changing society.

Logos available for home micros and the computers themselves are also discussed, though inevitably this information is already somewhat dated. However, the book's main value is its explanation of Logo's full impact and intentions. Mr Hammond is an evangelist, but whether you agree with his cause or not, this is challenging reading.

John Minson

Book *Artificial Intelligence Projects for the Commodore 64* **Price** £12.95 **Micro** C64 **Supplier** John Wiley and Sons, Baffins Lane, Chichester, West Sussex PO19 1UD

I began by liking this American import from Tab Books, as it started by questioning how 'real' human intelligence is. Good, thought I, some discussion of the philosophy of computer and human 'learning' and thought.

Turn the page, though, and it's back to pages of listings for all the usual examples, from the 'Eliza' style conversation generator to the Noughts and Crosses game theory. All are well documented and there's a rather neat logical relationship analyser, but then again there's a totally irrelevant screen drawing listing.

To have real value, a book about A.I. must provide far more context than this. If you only want listings most are available elsewhere at far less than you'll pay here.

John Minson

Book *Making the Most of the Sinclair QL: QL SuperBasic and its Applications* **Price** £7.95 **Micro** QL **Supplier** Hutchinson & Co (Publishers) Ltd, 17-21 Conway Street, London W1P 6JD

Not that there's any shortage of books on the QL, but this one belongs to a series recommended by *QL User* magazine and with forewords by Nigel Searle of Sinclair Research, which both add a sense of official backing.

The book attempts, in a brisk, business-like fashion, to introduce the computer's capabilities. Not too much time is spent on how to connect it to the mains, nor are there listings for amateurish arcade games. In keeping with this micro's serious image, the examples, which follow a brief survey of some QL SuperBasic commands, are mainly mathematical and scientific programs, ranging from 'best-fit' straight lines on graphs to missile trajectories.

In fact, there are over 100 short listings, concentrating on the handling of formulae, and this book will be of greatest value to those who aim to use their QL in this context. Others will probably find its no-frills approach and shortage of program notes less helpful.

John Minson


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Although it can be difficult to become fully proficient in machine code programming, each instruction, in itself, is relatively simple to understand The authors are careful to bring out this in their approach showing clearly and carefully what each instruction does and how it is used. Then, when you feel more confident as a machine code programmer, you can begin to construct more and more adventurous routines from a collection of the simple individual instructions
David Lawrence and Mark England are experienced machine code programmers on the Commodore 64, being authors of Machine Code Graphics and Sound for the Commodore 64 and The Commodore 64 Machine Code Master, but not so experienced that they have forgotten the pitfalls and confusing points that await the beginner
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Arcade Avenue



Amstrad help

Here are the long awaited poke routines for the Amstrad versions of *Knight Lore* and *Alien 8*. As so often happens, after we ask for help on a particular game we get many replies and I want to thank Henry Clark, 'Hacker', Paul Denman, Richard Pemberton, Andrew Green, D Goodwin and Steven Huchinson.

The best routines came from someone who is known only as Ant. To start with here is his *Alien 8* pokes

```
10 Openout "d
20 Locate 1,1 Print Space$ (6), "infinite lives by ANT"
30 Memory 4351
40 Load "!", 4352
50 For i=1 to 7 Read a, b: Poke a, b,: next
60 Data 4353, 0, 4354, 0, 4355, 0, 4392, 20, 4414, 49, 4415, 255, 4416, 181
70 Call 4352
80 Load "!", 8192
90 Poke 18782, 0: Rem infinite lives
100 Poke 12638, x: Rem X=number of chambers
110 Poke 19018, 0: Infinite lives
120 Call 4414
```

Ant's routine for *Knight Lore* stands out by the inclusion of a redesigned room using a system similar to that we printed for the Spectrum version some months back. To recap, picture each room as a grid of maximum size 8 × 8 squares and four squares high. The bottom layer is numbered 0-63 running top to bottom and left to right, layer two is 64-127, etc. Each object has a number in the range 0 to 224 going up in jumps of eight. For example, a table is signified by number 88, a knight by 64, a ghost by 72. Experiment to see what other numbers represent.

The rooms are stored from location 21476 upwards and consist of bytes for the shape and colour of the room followed by a byte 255. The data following this shows what is in the room – one byte defines the object type, and how many there are is shown by adding 1 for each extra one you want – eg, 38 + 8 = 68 gives you three tables. The next few bytes tell you where in the grid these objects are, so the sequence 68, 0, 64, 128 will put three tables in a pile in the top left corner. Use Ant's example as a model for redesigning more rooms

```
20 Openout "d": Rem must be lower case
30 Memory 4351
40 Load "!", 4352
50 Restore 140
60 For i=1 to 7: read a,b: poke a,b: next
70 Call 4352: locate 1,1: print "infinite lives by ANT"
80 Data 4353, 0, 4354, 0, 4355, 0, 4402, 201, 4424, 149, 4425, 255, 4426, 181
90 Load "!", 6192
100 Poke 18868, 0: Rem infinite lives
110 Poke 15438, 0: poke 15439, 0: poke 16440, 0: Rem no change and endless days or poke 15567, x where x is number of days 1-39
120 Rem poke 15103, x where x is number of objects
130 Rem design room A1 of Knightlore map Vol 4 issue 4
140 Restore 230
150 For i=1 to 18: read a$: poke i + 21475, Val ("$" + a$) next
160 Data b0, 03, b0, 0b, b0, 13, b0, 12, 01, 11, 10, 98, 1f, 96, 27, 98, 38, 98, 3c
170 Call 4414
```

High prices

Here are a couple of other tips Hacker says to clear levels on the Amsoft game, *Galactic Plague*: plug two joysticks in tandem and pull the second one left. Steven Huchinson gives these pokes for *3D Starstrike* – *Poke &2666,0* keeps you on level 1 and *Poke &2640,0 Poke 2641,0* put the shields back to maximum after every run. He also gives us a highscoring code for *Ghostbusters* – enter 'Michael' and 10241424

Richard Pemberton has these high scores – *Knightlore* finished with 73%, *Rocky Horror Show* finished on 12th July; *Super Pipeline II* 144,630 before getting bored (if you can find a safe position on the pipe for shooting the hazards the barrels fill up quickly), *Star Avenger* 7,410, *Sorcery* 82,250; *DT's Decathlon* 743,830 with nine lives left having given up with Decathlon elbow. He recommends all these plus *Kong Strikes Back* and *Ghostbusters*.

Richard feels that Amsoft are responsible for the extraordinarily high prices of Amstrad software. I agree with you, Richard, but things should change now that Amsoft are getting competition from releases such as Mastertronic's excellent *Finders Keepers*.

Richard also has a plea for help with *Dun Darach*, something that many people have echoed since I hinted you could cheat at making money (I'm glad to see that the game is driving you all as mad as it is me). Well, D Goodwin has sent in some tips and a map for the game, which I have passed on to Tony Bridge.

However, I will give away the low down sneaks method of clocking up the readies which Mr/Ms Goodwin has also discovered – go to the casino, put all your money on the best odds and save the game. If you lose, restore your saved version, if you win save the game again, leaving the money on the table.

I can't let an Amstrad oriented column go by without mentioning the Amsclub User Group which can be contacted at 42 Mount Stewart Street, Carluke, Strathclyde, Scotland ML8 5EB. They are a young but very active group and each month they produce a tape based 'magazine'.

Keyboard choice

The most recent issue, number 6, is particularly noteworthy because it includes some pokes that allow you to load and list protected programs.

Lets finish with this excellent set of pokes from Mike Smith. One flaw with Amsoft games, other than their price, is the fact that keyboard choices and the inlay blurb are frequently abysmal. As Mike says, "A lot of people have found *Codename Mat* awkward, the joystick option is confusing and the keyboard option was designed by a Myon. However, *Poke 8013, 8: Poke 9021, 1: Poke 9030, 2: Poke 9033, 0* lets you use the cursor keys for movement. *Poke 9046, 47* makes the space bar the fire key and *Poke 26148, 68: Poke 26135, 70* turns Tab and Caps Lock into accelerate and decelerate respectively."

Any other routines that rescue a good game from a dire key choice will be very welcome

Tony Kendle

We are searching for the top UK computer games player – the best there is!

The very best of Britain's game players will get to fight it out on a number of top secret new games – scheduled for release in the autumn.

Here's how it works

Study the table below and look at the column for the machine you have – these are the games you'll need to master. Send your high scores in on the form below, making sure that your scores are authenticated by a responsible individual signing the form. Any score achieved using technical short-cuts – such as infinite lives Pokes – will not be accepted.

Between now and September Tony Kendle will be keeping you up to date on the *Arcade Avenue* page with just who has the scores to beat. Then, in September the top three scorers on each machine will battle it out for a place in the final and the chance to be the first to play the top secret games.

	Commodore	BBC	Spectrum	Amstrad
Game 1	Suicide Express	Elite	Technician Ted	Sorcery
Game 2	Beach Head	Jet Pac	3D Star Strike	Splat!
Game 3	Shoot the Rapids	Chuckie Egg	Cyclone	Manic Miner

Game Wizard Entry Form

Micro

Game 1 score

Game 2 score

Game 3 score

Name

Address

Your signature

Witness's signature

Tony Bridge's Adventure Corner



Source of confusion

From kind adventurers offering help to others, we now turn to those seeking help

For the Grand Elf and I, one of the reasons for indulging in this hobby is the interreaction with other adventurers, and even non-adventurers (my family has long become immune to my inane mutterings about Menhirs, Zorks, Agaliarept and Festitocalons)

The first reader wanting help is Simon Davis, who is stuck in *Jewels in Babylon*, the very popular adventure from Interceptor "I have reached the locked door in the dusty corridor, but cannot find the key I assume that it is somewhere over the bridge but as yet I can't find a way across Also, what is the smooth slab of rock behind the waterfall, is it a door or red herring?" The key is, I'm told, essential to completing the game (aren't they always?) — a clue is, you'll need the plank I notice, Simon, that you have this in your inventory, so keep working on it! Objects that you presently have but actually don't need are the Bottle, Coconut, Skull, Sextant or the Shoe These hints come from Sgt Ivor Williams, who'll be quite happy to help you if you send him a SAE 910 Sgt Williams, I, 28 Engr Regt, Wkspa REME BFPO 24

Bill Whale is in Hampstead Well, actually, he lives in West Sussex, but he's playing *Hampstead*, the UMA (upwardly mobile adventure) from Melbourne House It's a game that I've not had time to play much, but Bill is obviously having a lot of trouble He's been allowed to buy the business suit, but not much else — can you help? Ian Bainbridge is also stuck in *Hampstead* but his problem is in finding the Industrial Estate and what to do there You can contact him direct at, 53 Stockfold, Fatfield Washington, Tyne and Wear NE38 8RU

Interceptor is a company which has gained a well-deserved reputation for tough, well-illustrated adventures, and *Warlord* is one of their latest releases I haven't seen it yet, but I assume that the pictures are of the usual high standard, and the puzzles, according to Richard Hewison of Luton, are also up to scratch. He's sent me a comprehensive map and very helpful hints about the 80% that he's solved so far, but has come up against a blank after entering the Ring "What is the meaning of 'Try a more measured approach'? What am I supposed to do in the Crystal Cavern and Nemed's Shrine?' If you'd like to swap experiences with Richard, you can contact him at: 16 Bushmead Rd, Luton, Beds LU2 7EU.

Now to *Colossal Cave Adventure*, the very first adventure that started it all off There are many versions of this, most of which only differ in the small details of descriptions, the larger puzzles being

Jewels of Babylon

the same in all Melbourne House's version, however (which they call *Classic Adventure*), has some novel twists to the storyline which make the procedures rather different than in most of the others Now I haven't actually had the pleasure of seeing this one, and all my references to the classic adventure are based on the most traditional programs, such as that from Level 9 (called *Colossal Adventure*) — this may be the source of Doreen Barton's confusion 'I have read about the Pirate's Chest in The Corner but it isn't there I have tried dropping treasures in the Pit in the Maze, hoping that they would disappear while I was away but no such luck "

Doreen, I don't know, as I've said, if Melbourne House's pirate routine is the same as in the others, or even if there is a pirate, but in the traditional game, the chest will only appear when you have actually had some loot nabbed by the old salt, and this is likely to happen at random (so don't carry too much treasure!) The chest will appear in a location previously marked 'Dead End', which may help you to map the maze at leisure

That should also help R J Knapp, who is, or was halfway through Level 9's version of the classic — he also wants to know how the adventure ends, and says that a friend who played the original on a mainframe reckoned that the game ends after playing it for a long time Not strictly true Mr Knapp, although it would certainly take most of a long time The mainframe versions allowed players who reached a certain score to effectively 'lock' the later stages of a game

Level 9, using their in-house memory compaction routines, have managed to add some 70 extra rooms to the mainframe version, so the game is rather different towards the end You have the Platinum Pyramid, good but there are 17 more treasures, and many more objects to be used Still on Level 9, Andrew Wright of Wokingham is playing *Lords of Time* He has several questions 'How do I use the Wheel to get back to the Clock? How can I get past Pirate Pete? Can I remove the grate in the hot baths in Zone 8? Where is the Gold Nugget? Can I get out of the maze behind the secret panel in Zone 6? Where is the fur coat, and how do I get it?'

As you'll know Andrew, from reading the documentation supplied with the adventure, Level 9 will supply you with a clue sheet in return for the coupon, and a very good one it is too However, for a quick rundown on your problems

The wheel, found in the Invention Room, may simply be dropped at any location to return to the clock, and you'll find the wheel there If you give a present to the shivering Viking, he will give you a Lure That's a Viking Horn that can be used to summon his mates when you need to get rid of unsavoury characters (incidentally, in a hark back to Pete Austin's *Colossal Adventure*, any treasure that the Pirate nicks from you will end up in his chest) Yes, you can move the grate . . if you're very strong! The gold nugget is a gift from a grateful Cavewoman. Yes, you can escape from the maze The coat is left by the mammoth when you scare him off, well, he doesn't like fire!

Many other players seem to be stuck on getting the sword to deal with the Black Knight — you'll find this in Zone 2, in the Throne Room You'll have to smash the Ice Block with a special instrument. Next week, more help on a variety of adventures

Adventure Helpline

Going bananas? If you are stuck in an Adventure with nowhere to turn do not despair – help is at hand

Fill in the coupon explaining your problem send it to us and a fellow adventurer may be able to help

Remember – the system only works if those adventurers who have solved the puzzles get in touch Every week is Save An Adventurer Today (SAAT) week!

Adventure .... on (Micro) ....

Problem ....

....

Name ....

Address ....

Peek & Poke



Up-graded monitor

Andrew Straughton of Cockermouth, Cumbria, writes:

Q **I am considering buying a new Amstrad CPC 664 with a monochrome monitor. Is there any way of up-grading this to a colour monitor in the future. Could I use the power supply only from the monochrome monitor?**

A The 664 is now to be phased out and replaced by the 6128, but the same remarks still apply

You can use another monitor with the Amstrad 664 or 6128, as you say utilising only the power supply of the supplied one.

Amstrad does not offer any up-grading package, whereby monochrome users can up-grade to colour by some sort of trade-in arrangement.

But as an alternative you can buy a modulator package allowing you to use an ordinary colour TV with the machine – although you won't get the same quality as you would with a monitor

Program break-in

Stephen Lowes of South Benfleet, Essex, writes

Q **I want to know how to stop people breaking into my program and also how to 'hide' the listing so that nobody can read it.**

A On the CBM 64 you can achieve this with.

Poke 808,361
Poke 808,239

Either of the above two *Pokes* will disable the *Stop* key To prevent the program being listed, should the little devils manage to break in somehow, use *Poke* 775,0.

Extra lives

Ben Dewhurst of Yate, Bristol, writes'

Q **I have just recently purchased a Spectrum, and several games. I have heard a lot about Poking games for extra lives or other functions So please could you tell me how to go about Poking a game?**

A The only games that are easily Pokeable have Basic loader programs Instead of loading your game with *Load* "", you need to use *Merge* "" You then stop the tape. *List* the loader program and enter the supplied Poke command(s) When you then *Run* the loader program, all you have to do is restart the tape, and away you go ... playing *Manic Miner* or whatever with as many lives as you can cope with.

Dragon routines

Andrew Brocklehurst of Ilminster, Somerset, writes:

Q **I read some time ago that you wanted Pokes and other routines from your readers. What do you think of these for the Dragon?**
***Poke* 113,0 (acts as an on-off switch)**
The following routine *Merges* two Basic programs:
***Cload* "1"**
Poke 25, *Peek (27)*
Poke 26, Peek (28)-2
Cload "2"
***Return* 2**
Poke* 25,30:*Poke 26,1

A Many thanks . I'm only sorry that you are the only one I've heard from to date, Andrew

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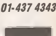
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WANTED BBC micro pen pal with interest in m/c and/or Pascal programming preferably with disc drive to swap programs hints tips etc Write to Paul Phillips 13 Mountain Road Conwy Gwynedd

BBC Cumana disc drive £90 ono 01 387 8757

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BBC disc drive 40 discs £280 ono Contact D Scott 250 Harder Place Holck Roxburghshire Scotland.

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AMSTRAD disc drive + interface + system disc as new £150 ono Also Amstrad software Tel 0745 32868

COLOUR AMSTRAD perfect condition boxed as new still under guarantee including joystick and £400 software Sorcery Alien 8 Combat, Lynx, Pyjamarama Ghostbusters Rollaball etc + mags Only £330 ono Tel Halifax 41974

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AMSTRAD CPC 664 colour monitor 3" disc drive Seikosha GP 80A printer Prolek modem + interface Over 170 programs 80% on disc joystick Only £750 Tel 0565 72175 ask for David.

AMSTRAD CPC 464 with colour monitor and manual Various software Hardly used Still boxed Forced to sell so only £240 01 737 4108

AMSTRAD CPC 464 with software and discs worth over £500 plus Spectrum 48K keyboard synthesiser joystick interface II over £300 software books and magazines The lot £300 will split. Tel John 01 534 3606

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AMSTRAD disc drive twelve weeks old hardly used complete with three blank discs boxed £139 Also Amstrad software £3 50 each Tel 0630 57129

AMSTRAD 464 and colour monitor Ool dsk II Centronics lead headphones, software book on Z80 manual etc etc In original boxes and good condition Bargain at £400 ono Tel Halesworth 2868

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ATARI video computer system and five games eg Pac Man Defender and 2 joysticks 2 paddles worth £95 Asking £65 ono Tel Shaun on 0744 58773 after 1pm.

ATARI VCS joystick paddles steering controller and 22 cartridges £180 ono or swap for Electron Commodore 64 Commodore Plus 4 Spectrum, Dragon Atari disc drive printer or software Also software for sale (original) Tel Yeovil (0935) 25874

ATARI modem interface (Datatari) plus software £35 ono Tel 0793 750086 after 7pm Original disc software wanted ask for Roger

Commodores for Sale

COMMODORE 64 – C2N, joysticks over 40 software games, complete machine book tutor on tapes all for only £200 o.n.o. Telephone 01 554 5606 anytime

CBM64 for sale Incl £400 software C2N joystick books Sell for £300 or swap for QL or Atari 130XE and disc drive Simon Hulbert 16 Anvil Street Brighouse W Yorks HD6 1TP

CBM64 £100 and Vic 20 £25 Tel 01-850 2254

CBM64 and disc drive cassette deck software Sell for £220 Sell CBM printer for £80 or any useful swaps Tel 0904 707989

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CBM64 and C2N data recorder books boxed as new Genuine reason for sale £170 ono Buyer collects Tel 01-654 0380 (Addiscombe) ask for Kevin

CBM64 computer only for sale quick sale wanted, £175 ono Good condition boxed Tel 01 894 7800

CM64 tape originals for sale including Exploding Fist View To A Kill International Tennis and many others half price hardly used also Decoder £6 Wanted Commodore disk games Tel Michael 022 026 830 7-9pm

CBM64 Modem – brand new unboxed free 12 months subscription to Compunet £70 Seikosha AP80A Dot Matrix tractor fed printer and leads with software for CBM64 £80 Tel Gary 01-665 5480 (after 6pm)

CBM64 Software cassettes disks Roms for sale from private collection in original condition, going cheap! List ed in order of quality Write to John Keogh 30 Highwood Ave, Finchley London N12 8QP

CBM64 + C2N data recorder disk drive 7 colour printer joystick 120 + megs selection of software and programs on tape and disk. Tel. Tywygongol 853461 Bargain at £850 ono

CBM64 software 30 titles include International Tennis Basketball Summer Games Exploding Fist Beach head Spy Vs Spy many more all originals worth over £120 sell for £60 Also Slack Rifle £10 Tel 0280 704323

Dragon

DRAGON 64 month old still boxed guaranteed recorder two joysticks light pen software including Chuckie Egg Hunchback Hungry Horace Skramble Basic Tutorial and more Bargain at £175 Tel Thanet 597668

DRAGON 32 plus joystick and games £60 ono Currah speech unit for Spectrum £20 Games Mugsy Full Throttle Death Star Star Strike Ashkeron many others Sae for list or phone Dave Tel Newcastle 634606 after 5pm

DRAGON 32 computer with cassette recorder £90 of software (including Microdeals The King and Peaksoft's Cricket) and Quickshot joystick. Cost new £286 sell for only £60 Tel Runcorn (09285) 72320

For Sale

AMSTRAD CPC464 with disk drive and DKtronics special synthesiser plus over £500 of software plus Amstrad 4000 mark III stereo amplifier and speakers plus joystick worth over £1 100 only £420 Byfleet (09323 43981)

BBC B with Acorn DFS torch Z80 disk pack 7roms Acorn speech chip Hires mono monitor tape recorder joystick business games software Lots of extras 14 months old £300 the lot. 0934 577901

HEWLETT PACKARD HP41CV programmable calculator £105 card reader £95 X functions/memory and time modules £40 each survey and aviation modules £15 each rechargeable batteries £20 ono any item Tel 01 748 5607

AMSTRAD CPC664 (colour monitor and disc drive) nearly new £100 of software books and magazines Quick sale £395 Phone 01 863 8881 (late evening)

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AMSTRAD CPC464 green screen with disc drive and MP1 converter for use on colour television Will sell with software etc for £225 ono Phone Andy on 0272 218344 (day) 0272 502710 (evenings)

PRISM MODEM 1000 with O E L communications cartridge for CBM64 Competition prize Brand new £65 ono Phone 0234 712300 evenings

TEXAS TI99/4A COMPUTER and peripheral expansion unit RS232 card UCSD-Pascal card all manuals £100 Boxed Brother HR 5 serial RS232 with spare ribbons £100 Lots of paper Tel 01-348 2466 ask for Derek

AMSTRAD MONITOR green screen GT 64 for CPC 664 Have bought 6128 but keeping CPC464 computer As new boxed Perfect 80 col display Only £40 Tel 01 992 2280

AMSTRAD CPC464 green boxed as new including 34 originals and Basic tutorial plus dust cover and cassette box Genuine reason for sale the lot for £350 ono Tel 390 7306

AMSTRAD CPC464 with colour monitor boxes manuals etc Extended guarantee only £250 for quick sale or complete with £100 + software for £280 ono Tel Clacton (0255) 814523 evenings/weekends

INTELLIVISION CONSOLE plus five games New Swap for microdrive Spectrum hardware software W H Y also spectrum games utilities to swap

COMPUTER SWAP

Computer Swap entries are limited to 30 words. All entries cost £2 50 and can be accepted by telephone if a Visa Access number is given Please enclose a cheque or postal order or give Access or Barclaycard No in the box provided Only text appearing in the grid will be printed Send the form to *Computer Swap Popular Computing Weekly* 12-13 Little Newport Street, London WC2H 7PP

All software offered through computer swap must be an original container and for private sale only

It cannot be swapped

Warning It is illegal to advertise pirated software

COMPUTER SWAP

Please write your copy in capital letters on the lines below

Name ....

Address ....

.... Telephone ....

☐ *Please charge my Visa/Access card no* ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

DIARY

Event	Date	Venue	Admission	Organisers
Personal Computer World Show	September 4-8	Olympia London	£3.00	Montbuild 01-486 1951
Computer Show	Sept 7 10.30am-5.00pm	YMCA Hall Church Hill Redditch W Midlands	50p	CJS/Northleach 045110 609
Computer Show	Sept 14 10.30am-5.00pm	Benn Hall Newbold Road Rugby	50p	CJS/Northleach 045110 609
Electron and BBC micro User Show	September 27-28 10.00am-6.00pm September 29 10.00am-4.00pm	UMIST Manchester	£3.00 adults £1.50 children	Database Publications 061-456 8383
Amstrad User Exhibition	October 5-6 10.00am-6.00pm	Novotel Hammersmith	£2.00 adults £1.00 children (in advance)	Computer Marketplace 01 930 1612

Wanted printer plotter SP DOS or disc driving software.

ORIC ATMOS recorder Hobbit Trek, Monch Ultra, Scuba dive Ratsplat, Defence force Ultima Xenon Grail Chess Probe 3 Green Cross Toad Tel 01 364 5996 any time ask for Dave

FORTH COMPUTER 16K Sinclair ZX81 fitted with Forth ROM by David Husband and complete with Forth manual ZX81 Rom also supp wd £40 Hemel Hempstead (0442) 60618

FOR SALE First Byte joystick interface and joystick all in vgc sell for £20 ono also wanted Pen Pals 17 up with electrons Write W Reid 5 Primrose Bank Wigton Cumbria CA7 9JN

INTERFACE ONE, microdrive and four microdrive cartridges Boxed mint £75 Mr Stone 8 Bolton Grove Hull North Humberside HU9 3EO

MEMOTECH MTX with 96K RAM 16K Graphics RAM Wordpro ROMS Pascal ROMS tapes Today's prices worth £500+ Will accept £290 and include speech board Buyer collects. Tel 061 866 5880

MICROVITEC COLOUR MONITOR for ZX Spectrum as new £180 Smith Corona TP1 printer Dust cover spare daisywheel and ribbons as new £175. Spectrum Masterfile £8 Hisoft Pascal £10 Tel Colchester 572668

INTERFACE 1 AND MICRODRIVE Z cartridges manual net lead (no demo sorry) £60 ono Tel 0467 42429 (Nick)

ZX PRINTER boxed as new £25 ono Sinclair flat screen television boxed as new £85 ono consider microdrive and/or business software in part exchange Tel Milton Keynes (0908) 311687

VOICE RECOGNITION UNIT for Spectrum by Wren Data Ltd Complete with mike As new boxed cost £45.95 a bargain at £22 post paid Tel 0428 713018 (Hampshire)

FOR SALE Centronics Model 152 printer for sale (lead for BBC supplied) New £700 selling for £300 ono (buyer collects) Tel Westbury 0373 826425 (Wilts)

TI99/4A LOGO II for sale Unused £45 Tel 082 43 274

SAP VIC 20 with C2N cassette 16K Rampac switchable joystick and over 80 games and 5 cartridges swap for Commodore 64 with or without C2N (all games are originals) Tel Larkhill 67958

ORIC ATMOS plus Oric 4 colour printer plotter plus technical software including spreadsheet, curve fitting decision maker chess plus books £100 ono also Amstrad DD1 interface £30 Tel 0785 52188 after six

32K PET WITH GREEN SCREEN, toolkit and many extras plus Commodore 80 col printer plus over £250 worth instructional books and programs Complete package ready to run only £250 Tel Ruislip 31025

LYNX 96 COMPUTER. As new lots of S/W books joystick and interface all leads and manual £150 for quick sale Tel 01 204 1580

SORCERER 64K RAM Basic and monitor source listings technical manual ESC mpgs and some games tapes £199 including postage as I'm abroad G McCavitt 1 ADSR BFPO 32

PRINTER BUFFER FOR SHINWA CPA80 printer down load custom character set or modify ROM characters to use when printing or use it as a buffer only £15 Tel Basildon (0268) 284771

AMSTRAD CPC464 with tape recorder monochrome monitor modulator manuals software including alien-8 ghostbusters etc Perfect under guarantee £250 ono Write Paul Mason 18 Highview Gardens Upminster Essex Tel 04022 21901

ORIC ATMOS 48K in original box plus manual only £55 including postage John Tel Witney 2557 (day) or Ramsden 248 (evenings)

DATAFAX DISC INTERFACE for Spectrum £40 ono DKTronics light pen £10 Currah Micro Speech £12 Micro drive £30 Rotronics Wafadrive plus spare wafers £70 Tel Wigan 0942 36864

FULL FDS KEYBOARD, Currah Microspeech + Microslot programmable joystick interface + two joysticks worth at least £130 Sell for just £80 ono Also 16K Oric 1 for £45 ono Tel 061 881 6563

SHARP MZ80A FOR SALE or swap for Sinclair QL or BBC B or CBM64 and disc drive Write to Nigel Kennett Springles Micklefield Lane Rawdon Leeds LS19 6BA

80K COLECO Adam integrated word processor plus letter quality printer Basic educational S/W games TV game console guaranteed £205 Genie 48K with twin disk drives TRS80 Compatible £200 Tel 061 228 1939

PRESETL TERMINAL BY PYE with keyboard four number memory auto-dial plus built-in TV/Teletext B n mono monitor printer cassette ports £290 ono or swap BBC B Ray Tel 0742 471180

AMSTRAD CPC 464 Green Screen £100 colour £240 Boxed + software Tel 021 421 7257

MEMOTECH MTX 512 64K with newword word processor ROM inc manuals and leads Bargain at £160 Tel 01 368 6543

AMSTRAD CPC 664 with colour monitor at 1 under guarantee with disc drive and controller CP/M logo and games Cost £380 accept £400 Tel 0942 604434

VISCOUNT DISC INTERFACE and Shugart 100K disc drive for Spectrum In very good condition complete with instructions £118 ono Write to J Vaughan Room A21 Saltash Hall Brunel University Uxbridge Middlesex

AMSTRAD CPC464 Green Screen + software including Pascal Forth Sorcery Knight Lore, Fighter Pilot Dark Star + manual + books much unfinished (upgrading) £160 Tel Bridgnorth (07462) 66927

SINCLAIR QL + £900 of software Fastext 80 Printer + Interface 48 Microdrive carts and a third drive for the QL Will sell for £875 ono Tel 381 1933 Philip

TATUNG EINSTEIN (one disc drive) + 80 column card + colour monitor + joystick BBC Basic wordpro Spreadsheet Database programmers kit + dustcover all £450 ono Tel 01-567 4351 ask for Levent

AMSOFT business programmes Microscript Microspread and Micropen £30 each or £70 the lot Amstrad 12 pack software £40 Amstrad DMP1 £130 ono or will swap for disc drive Tel 0203 316609

FOR SALE. 45 issues of computer & video games Every issue from Nov 81 (issue 1) to July 85 £37 ono Buyer collects or pays postage Paul Tel 31535 (Milton Keynes)

HEWLETT PACARD HP41C Alphanumeric programmable calendar with permanent memory Still boxed with manuals Cost £780 Swap for Spectrum Plus 48K Tel 0352 713864

TEXUS 1100-4A extended basic speech synthesiser joystick interface games books manuals as new boxed £80 ono Tel 02214 62659

TI99-4A with extended basic and some s/w included Also twin joysticks interface £80 ono Tel 0656 722306

AMSTRAD CPC646 mono monitor Tasword Two and master file s/w £290 Tel Halifax 0422 206299

AMSTRAD DMP1 printer little used and full Amsword £150 Tel 0787 277956

MICROVITEC Cub monitor for sale 7 months old in black with standard inputs with leads etc Very good working condition Cost £275 first offer over £180 secures Buyer collects Richard Tel 01-898 7093

FOR SALE 41 assorted computer magazines including Crash Y S Your Computer PCN PCW Big K C&VG Available individually or altogether £12 including postage Tel 0772 684738.

PRINTER Seikosha GP 500A graphic printer 50 cps Centronics interface 6 months old 7 months guarantee boxed Excellent condition £119 ono Tel Ayr (0292) 42252

MAGAZINES for sale. Practical Electronics etc Sae for list to Bradley 8 Springfield Road Caversfield, Bicester Oxford

MAGAZINES for sale Byte issues Dec 84 to Jun 85 75p each or £5 the lot Also other magazines Sae brings list Buyer collects Bradley 8 Springfield Road Caversfield Bicester Oxford

POPULAR COMPUTING WEEKLY vols 1 2 3 and 4 nos 1 24 for sale plus many other mags Write to K L. Chan 9 Cornmarket Thame Oxon OX9 3QX

PRISM modem 1000 direct connect, BT approved Including Prestel Rom and leads for BBC micro £50 Tel Colchester (0206) 396372

COMMODORE Vic-20 computer 16K sw frank c ram pack, Quickshot 2 joystick Introduction to Basic part 1 cassette deck and 36 original tapes £70 Tel 398 6983 any time

AMSTRAD Arnor Maxam Rom Board as new £36 Dk tronics speech synth and stereo amplifier with speakers as new £28 Tel 01 743 3931 hrs for John

AMSTRAD disc drive only eight weeks old 3 blank discs unwanted gift, boxed £149 Also Amstrad originals Fighter Pilot Technician Ted Survivor and Blagger £3.99 Quill £9 Tel 0630 67126

ATARI 822 thermal printer new £109 bargain at £50 ono Excellent condition Tel Buckley 547323 anytime.

QL, JM Rom original and updated software plus four spare microdrive cartridges Excellent condition £275 ono Tel (08277) 68216 (Kings Langley)

64K JVC MSX computer 3 months old good condition boxed with 5 games incl Circus Charlie Comic Bakery and Sorcery The lot £120 ono Tel 01-402 6570

AJF protocol four joybox interface £20 Nick Tel 0467 42429

DISC DOCTOR BBC Rom £22 Acorn DFS chip £10 Brother EP22 typewriter printer RS232 interface and cable for BBC/Spectrum (with interface 1) £60 John Tel 061-434 9851 after 6pm

LYNX 96K data recorder all leads manuals perfect condition plus software £200 ono Tel Cardiff 792537

FOR SALE. The Wreck from Electronic Software for the MSX Unwanted prize. Cost £14.95 will sell for £10 Tel Nottingham (0602) 863077 after 6pm and ask for Michael

AMSTRAD CPC484 green screen monitor Kempston joystick magazines printer cable software worth over £100 including Devpac Firmware guide All boxed Very good condition £236 ono Will split Tel Ayr (0292) 42252.

ATARI 800 1050 disk drive excellent condition boxed over 180 programs all on disk bargain at £250 will deliver reasonable distance Tel Preston 323148

POPULAR COMPUTER WEEKLY Buggy Robot trolly for the Amstrad fully assembled in plastic box just plug into printer port and run with instructions and tape £15 Stan Tel 01-593 6522.

SHARPE MZ80K integral monitor cassette and keyboard as perfect and in original box with instructions Some games included £150 ono Tel 061 864 1463 evenings only

DAMAGED Oric 1 keyboard and ram still OK use for spares Tel Martyn Blackpool 44758

STACK light rifle for 48K Spectrum including 4 games brand new normally £36 sell for £10 or swap for Interface 1 plus cash Tel 0342 713422 evenings only

NEW Brain model ad, technical manual beginner's guide book The Newbrain Dicancled £130 Tel 01-852 5644

3GK Cheetah rampack £15 RAT joystick £15 Latest software to swap Tel 061-330 5436 (Manchester) ask for Roy

SHARP MZ-700 software Includes utilities languages games applications machine code and basic Also books, listings and Sharp printer plotter for MZ-700 will sell separately dust cover magazines Tel 0350 30484

DK'TRONICS light pen for use with ZX Spectrum will sell for £14 ono Tel 01-902 6756 and ask for Ian

FIRST byte joystick interface and joystick for hardware or software for Acorn Electron Plus 1 Also wanted Electron pen pals Write to W Reid 5 Primrose Bank Springfield Wigton Cumbria CA7 9JW

Charts

Amstrad

1	(1)	Way of the Exploding Fist	(Melbourne House)	£8.95
2	(-)	Frank Bruno's Boxing	(Elite)	£8.95
3	(3)	Finders Keepers	(Mastertronic)	£1.99
4	(4)	Chiller	(Mastertronic)	£1.99
5	(6)	Nonterraqueous	(Mastertronic)	£1.99
6	(-)	Scrabble	(Leisure Genius)	£1.99
7	(3)	Locomotion	(Mastertronic)	£1.99
8	(3)	Beach head	(Access/US Gold)	£9.95
9	(-)	Brian Jacks Superstar Challenge	(Martech)	£8.95
10	(-)	Red Arrows	(Database)	£6.95

Atari

1	(-)	Ghost Chaser	(US Gold)	£9.95
2	(3)	Red Moon	(Level 9)	£9.95
3	(2)	Bounty Bob Strikes Back	(US Gold)	£9.95
4	(-)	Bruce Lee	(US Gold)	£8.95
5	(6)	Drop Zone	(Microprose/US Gold)	£9.95
6	(3)	Strip Poker	(Knightsoft)	£9.95
7	(-)	MULE	(Ariolasoft)	£14.95
8	(-)	Emerald Isle	(Level 9)	£9.95
9	(7)	Airwolf	(Elite)	£9.95
10	(-)	Mig Alley Ace	(Microprose)	£9.95

BBC

1	(2)	Beach-head	(Access/US Gold)	£9.95
2	(1)	Revs	(Acornsoft)	£14.95
3	(4)	Alien 8	(Ultimate)	£9.95
4	(7)	Combat Lynx	(Durell)	£9.95
5	(6)	Knightlore	(Ultimate)	£9.95
6	(8)	Mini Office	(Database)	£9.95
7	(9)	Elite	(Acornsoft)	£12.95
8	(-)	Repton	(Superior Software)	£7.95
9	(-)	Red Moon	(Level 9)	£9.95
10	(-)	Castle Quest	(Micropower)	£12.95

Commodore 64

1	(-)	Summer Games II	(Epyx/US Gold)	£9.95
2	(6)	Beach head II	(Access/US Gold)	£9.95
3	(1)	Way of the Exploding Fist	(Melbourne House)	£9.95
4	(2)	Frankie Goes to Hollywood	(Ocean)	£9.95
5	(6)	Hypersports	(Imagine)	£7.95
6	(9)	Elite	(Firebird/Acornsoft)	£14.95
7	(6)	Kick Start	(Mastertronic)	£1.99
8	(5)	Action Biker	(Mastertronic)	£1.99
9	(-)	Finders Keepers	(Mastertronic)	£1.99
10	(7)	Soft Aid	(Various Artists)	£4.99

Spectrum

1	(-)	Way of the Exploding	(Melbourne House)	£9.95
2	(-)	Nightshade	(Ultimate)	£9.95
3	(1)	Frank Bruno's Boxing	(Elite)	£8.95
4	(2)	Hypersports	(Imagine)	£7.95
5	(4)	Dambusters	(Sydney/US Gold)	£9.95
6	(3)	Frankie Goes to Hollywood	(Ocean)	£9.95
7	(-)	Southern Belle	(Hewson Consultants)	£7.95
8	(8)	Action Biker	(Mastertronic)	£1.99
9	(6)	Dynamite Dan	(Mirrorsoft)	£6.95
10	(-)	Highway Encounter	(Vortex)	£7.95

All figures compiled by Gallup/Leisurescope

Top Twenty

1	(3)	Way of the Exploding Fist *(Spectrum/64)*	Melbourne House
2	(-)	Summer Games II *(C64)*	Epyx/US Gold
3	(-)	Nightshade *(Spectrum)*	Ultimate
4	(4)	Frank Bruno's Boxing *(Spectrum)*	Elite
5	(-)	Beach-head *(Spectrum/C64/BBC/Amstrad/Atari)*	Access/US Gold
6	(1)	Hypersports *(Spectrum/C64)*	Imagine
7	(2)	Frankie Goes to Hollywood *(Spectrum/C64)*	Ocean
8	(15)	Finders Keepers *(Spectrum/C64/Amstrad/MSX)*	Mastertronic
9	(-)	Action Biker *(Spectrum/C64)*	Mastertronic
10	(5)	Dambusters *(Spectrum/C64)*	Sydney/US Gold
11	(12)	Elite *(C64/BBC/Electron)*	Firebird/Acornsoft
12	(-)	Beach-head *(Spectrum/C64/BBC/Amstrad/Atari)*	Access/US Gold
13	(-)	Formula 1 Simulator *(Spectrum/C64/C16)*	Mastertronic
14	(9)	Soft Aid *(Spectrum/C64)*	Various Artists
15	(-)	Southern Belle *(Spectrum)*	Hewson Consultants
16	(-)	Kik Start *(Spectrum/C64)*	Mastertronic
17	(14)	Red Moon *(Spectrum/C64/BBC/Electron/Amstrad)*	Level 9
18	(-)	Cylu *(Spectrum/C64)*	Firebird
19	(11)	Jet Set Willy II *(Spectrum/C64)*	Software Projects
20	(19)	Chiller *(Spectrum/C64/Amstrad)*	Mastertronic

Figures compiled by Gallup/Leisurescope

Readers' Chart No 40

1	(1)	Hypersports (Spectrum/C64)	Imagine
2	(2)	Elite (C64/BBC/Electron)	Firebird/Acornsoft
3	(3)	Way of the Exploding Fist (C64)	Melbourne House
4	(4)	Soft Aid (Spectrum/C64)	Various Artists
5	(5)	Dun Darach (Spectrum/Amstrad)	Gargoyle
6	(2)	Frank Bruno's Boxing (Spectrum)	Elite
7	(-)	Red Moon (Spectrum/C64/BBC/Electron/Amstrad)	Level 9
8	(6)	Shadowfire (Spectrum/C64)	Beyond
	(6)	Knight Lore (Spectrum/BBC/Amstrad)	Ultimate
10	(-)	Frankie Goes to Hollywood (Spectrum/C64)	Ocean
	(-)	Alien 8 (Spectrum/BBC/Amstrad)	Ultimate

Winning phrase No 40 "Typist erases the proof" from P Walker of Whitehaven, Cumbria, who receives £25. Runner up "Sporty Faldo his irons" from David Craig of Tarland, Aberdeenshire.

Now voting on week 42 – £25 to win

Each week *Popular* is compiling its own special software top ten chart – compiled by YOU

And each week we will send £25 to the person who sends in, with their chart votes, the most original (witty, neat or clever – but never rude) phrase or sentence made up from the letters (you don't have to use them all) in the titles of the top three programs in this week's chart, published above

You can still vote in the chart without making up a slogan – but you won't be in with a chance of winning the prize

All you have to do is fill in the form below (or copy it out if you don't want to damage your magazine) and send it off to Top 10, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP

Voting for Week 42 closes at 2pm on Wednesday September 11 1985. Entries received after that time will not be eligible for inclusion in that week's voting. The judges decision is final. Only one entry per individual per week will be allowed.

Name ....

Address ....

....

....

My top 3: Voting Week 42

1..............................

2..............................

3..............................

My phrase is: ....

New Releases

TOO THIN

Nightshade, what on earth to say about it? I delayed commenting on the latest Ultimate game last week for fear of having missed some point to the game. Surely, I had thought, this can't be all there is to it?

Maybe I just didn't get what I expected from *Nightshade* and that's what rankles. But essentially the game is a step away from the 3D 'what shall I move, where and when do I jump' puzzles of *Knight Lore* and back to the zap, zap, zap and run around of *Underwurlde*.

The graphics are pretty impressive, there are various kinds of monster, including one particularly appealing one with toothy grin and upstretched arms, that lurk around the houses and streets of a complex town. The animation is slick and as ever, the graphics are beautifully designed—they remind me of the kind of thing you used to see in *Scooby Do* cartoons.

The Filmation 2 comes with the *Zaxxon*-like presentation of the walls, windows, doors and other outside features of places within the city. These scroll very smoothly and are continuous, unlike say *Alien 8* where once you left a room a completely new one was drawn. The landscape is continuous in *Nightshade* and to some extent multi-coloured.

The decision to bring back multi-coloured action may, in fact, be the source of the programs problems. For one thing it brings back some colour attribute problems, which, though slight make the game look that little bit less blemishless than *Knight Lore*/*Alien 8*. For another, it may have cost quite a bit of memory and explain the paucity of plot.

The plot is the real problem, it's just too thin. Here is a summary: move little sabreman type figure around the town, dodge the nasty little monsters which infect you with diseases, watch out for little bottles which restore your health and boots which let you run around.

Look in rooms, these have weapons floating around in them, collect them and they will provide you with ammunition to defend yourself from baddies. The aim is to find four specific weapons and destroy four specific baddies.

The map appears to be large, but apart from different wall features, there don't appear to be any 'exciting locations' to be sought. After a small initial 'gosh wow' at the pretty graphics, I began to get bored.

Obviously, the game will sell in droves, so what I say here is largely irrelevant to the game's success. But I think this is Ultimate's worst for ages and there's none sadder than me at having to say it.

Program *Nightshade*
Price *£9.95*
Micro *Spectrum*
Supplier *Ultimate Play the Game*
Ashby Computers & Graphics
The Green
Ashby de la Zouch
Leicestershire
LE6 5JU

NO DIFFERENCE

Though technically rather outclassed these days, *Codename Mat* remains one of my favourite space games. Somehow the balance of blasting, docking with planets, warping and strategy was got right and the game proved very durable.

The sad thing about *Codename Mat II* is that over a year later nothing seems to have improved technically – the game looks exactly the same when one might have hoped for more *Elite* style graphics. The plot isn't that different either – defend the planet Vesta (hot and exotic with a taste of the orient) from the evil Myrons.

You zap around using long and short range scanners to pick out and blast baddies, you must think tactically to decide where to go next and what your priorities are from the choice of damage repairs. It's very much the same arrangement as *Mat I*.

Graphics are of the 'updating sprite' type and it works quite well, chasing the baddies around the universe is pretty exhilarating if also frustrating. You get a flashing control panel, battle computer, good explosions and most of the other things a space cadet needs to enter into the swing of things. In that sense it's a thoroughly worthwhile game.

For me the game was a disappointment, though. I really had hoped for something that would move us from *Codename Mat*, but instead *Codename Mat II* merely marks time.

Program *Codename II*
Price *£8.95*
Micro *Spectrum*
Supplier *Domark*
204 Worple Road
London SW20 8PN

ALIEN PILOT

Rescue on Fractalus is the first game from the software house set up by George 'Star Wars' Lucas – Lucasfilm Games. It's a space rescue game with quite a few sophisticated touches.

The name Fractalus comes from the term fractals which describes a way of building up convincing landscapes using recursive patterns, eg imagine a cog and then imagine that each tooth of the cog proves, on close examination, to be made up of hundreds of little teeth giving the impression of a smooth surface and then imagine that these little teeth are in fact . . you get the idea.

The fractal system gives landscapes realism and detail in a way a computer can handle that is also potentially less expensive on memory. In practice, though, where the technique is used in the game to create alien landscape seems to me to be of only limited effectiveness.

The plot has you piloting a spaceship around the rocky crags of an alien planet seeking out stranded pilots using a radar detector. You must land close to the pilot and then wait for him to run in. Constant attack from ground-based enemy weapon systems and the horrifying fact that some of your 'pilots' turn out to be aliens form the problems in the game.

Actually the graphics are pretty good; the spaceman running towards your ship is particularly well done and whilst the fractals don't necessarily create a more convincing landscape they do produce a different 'look' to the graphics.

Ultimately, I think the game could get a bit tedious. Basically the plot is a bit thin and I doubt that it's going to bear a great number of plays.

Program *Rescue on Fractalus*
Price *£9.95*
Micro *Commodore 64*
Supplier *Activision*
15 Harley House
Marylebone Road
London NW1 5HE

New Releases

HEROIC

Another conversion for the Amstrad – this time *Arnhem* – from CCS who have been pushing out fairly decent computer wargames for quite some time now. This one is no exception. One, two, even three player options are given, with five scenarios in all, covering the infamous Operation Market Garden – possibly the worst case of needless heroism since The Charge of the Light Brigade.

Like the Spectrum version, this is very playable, and quite reasonable as a game but as a simulation I'm not so sure. I wish computer wargames would take advantage of the possibilities of hidden movement. As a nod in this direction, the enemy unit types in Arnhem are not revealed until you attack them. But what about supply? Beyond the scope of a simple simulation perhaps.

The actual battlefield is presented as a colourful map, with the screen automatically scrolling to where the action is. I would estimate the whole campaign map to occupy about 12-14 screens, so keeping track of your forces can be quite a challenge.

The neat 28 page booklet that comes with the cassette consists half and half of instructions and historical notes – I would have preferred slightly clearer instructions, but they serve well enough. Nothing radically new here, but it holds the attention well enough to pull you back to the keyboard time and time again. Amstrad-owning wargamers form an orderly queue here.

Program *Arnhem*
Price *£9.95*
Micro *Amstrad 464/664*
Supplier *CCS*
14 Langdon Way
Blackheath
London SE3 7TL

SELF-DESTRUCT

Project Future is one of the zappiest games I've seen on Amstrad for a long time. In fact there is very little else to it that I've been able to discover. The setting is the maze like corridors of the SS Future, a mega enormous space ship which extends over around 255 screens.

Graphics are colourful being chock full of flashing lights, a zillion different kinds of aliens (one of which looks like Gonzo from the Muppet Show) and other sci-fi objects. Here and there you might find a matter transporter that will zap you on to another level.

Doubtless there's a strategy involved in finding your way around the various sections of the maze (to find the eight destruct codes that will activate the self-destruct mechanism of the ship and da-da da-da da, you know the kind of thing) but the real point and feeling to the game is to zap away at the aliens that block your passage. They replace each other almost instantly so the tension doesn't let up for a minute.

It's fast, and the bright colours and better than average sound give the whole game a faintly fairground atmosphere. Maybe it's the way the aliens look so harmless that almost makes the game funny; anyway against my better judgement I liked it. Ditch your brain and get your finger on the trigger.

Program *Project Future*
Price *£8.95*
Micro *Amstrad*
Supplier *Gremlin Graphics*
Alpha House
10 Carver Street
Sheffield
S1 4FS

STRATEGIC

Ghost Chaser is a multi (15) screen arcade game of the left, right, jump variety, albeit with a few new features and rather good graphics. Basic ideas are blast ghosts, dodge other things, collect the eight keys of tharg which open the ghost chamber.

Nice aspects to the game include hidden trapdoors, a strategy element as you work out how to get down to lower levels and collect keys without giving up the ghost. Controls are also a little more complex than usual, you can fire directionally using the joystick and use occasional bars to move hand over hand to negotiate gaps in the floor. It's also very fast.

Complaints are that the sound is naff, just token bleeps and wizzes and the whole thing has the aire of something that would have been brand new and exciting two years ago. With some of the budget priced Commodore games that are around, this looks a bit silly at £9.95.

Program *Ghost Chaser*
Price *£9.95*
Micro *Commodore 64*
Supplier *US Gold*
Unit 10
Parkway Industrial Estate
Heneage Street
Birmingham
B7 4LY

This Week

Program	Type	Micro	Price	Supplier
52nd Street	Ad	Amstrad	£1.99	JP Software
Black Phoenix	Ad	Amstrad	£1.99	JP Software
Dragontorc	Ad	Amstrad	£7.95	Hewson
A View to a Kill	Arc	Amstrad	£9.95	Domark
Mission Delta X	Arc	Amstrad	£1.99	JP Software
Space Bricks	Arc	Amstrad	£1.99	JP Software
Wizard's lair	Arc	Amstrad	£8.95	Bubble Bus
French Mistress	Ed	Amstrad	£9.95	Kosmos
Steve Davies Snooker	S	Amstrad	£8.95	CDS
Todes	Ut	Amstrad	£9.99	JP Software
Computer Studies	Ed	BBC	£11.95	Letts
Biology	Ed	BBC	£11.95	Letts
Chemistry	Ed	BBC	£11.50	Letts
English Literature	Ed	BBC	£11.50	Letts
Geography	Ed	BBC	£11.50	Letts
Mathematics	Ed	BBC	£11.95	Letts
Physics	Ed	BBC B	£9.95	Letts
Death Star	Arc	BBC B	£9.95	Superior
Wizard and Princess	Ad	Commodore 64	£9.95	US Gold
Rescue on Fractalus	Arc	Commodore 64	£9.95	Activision
Schizophrenia	Arc	Commodore 64	£7.95	Quicksilva
Starion	Arc	Commodore 64	£9.95	Melbourne House
Wizard's Lair	Arc	Commodore 64	£8.95	Bubble Bus
Crazy Painter	Arc	QL	£12.95	Microdeal
Bounty Bob strikes	Arc	Spectrum	£7.95	US Gold
Monty on the run	Arc	Spectrum	£7.95	Gremlin Graphic
Moeder III	Ut	Spectrum	£12.95	FSS

Key: Ad – adventure; Arc – arcade; Ed – education; S – strategy-simulation; Ut – Utility

Pick of the week

ALL TOGETHER

It looks very much as though this Christmas is going to see a lot of games compilations – collections of past hits on one tape heavily promoted through the TV, but representing excellent value for money

First off is Virgin Games's compilation *Now Games*, available for both the Spectrum and Commodore For £8 95 you get the following *Lords of Midnight* – Beyond's complex adventure wargame, *Brian Bloodaxe* – a reasonable variant on *Manic Miner* themes, *Strangeloop* – an excellent multi screen arcade game with detailed graphics and lots of features, *Arabian Nights* – an OKish arcade from Interceptor and *Falcon Patrol II* – an air combat game which is superb on the Commodore and a bit naff on the Spectrum.

It's excellent value – *Lords of Midnight* alone costs £9 95 usually and somehow the instructions have been retained, albeit on a fold-out sheet Should keep you busy for months

Program *New Games*
Price *£8 95*
Micro *Commodore 64/ Spectrum*
Supplier *Virgin Games 2-4 Vernon Yard Portobello Road London W11 2DX*

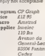
PATIENCE

Innelec are a French company that I first came across as a supplier of Oric games Since that computer wasn't entirely successful in this country it's no surprise that the latest batch of games are on the Amstrad.

Cheops describes itself as an animated adventure game Hunt around 300 chambers seeking out fabulous treasures, watch out for deadly snakes, spiders, etc Instructions are a mixture of abbreviated text input (*TS* for take status) and single key presses, though the general feeling is of a souped-up *Hunt the Wumpus*

It took me ages to figure what the hell you were supposed to do in the game Even watching the animated instruction program proved of limited help until I realised everything had to be in lower case Really it's a maze, made more complicated because there are hidden doors in walls, revealed by signs amongst the hieroglyphics on the walls

You ll either find it interminably tedious or a fascinating puzzle in logic and patience The occasional animated graphics don't add much to the game, but nevertheless the detailed background makes it attractive on screen



Program *Cheops*
Price *£8 95*
Micro *Amstrad*
Supplier *Innelec 110 bis Avenue du General-Leclerc 93506 Pantin Cedex France*

RELOADED

More from the French company Innelec, sometimes called No Man's Land in this country, which has moved into Amstrad software *CP Graph* is a basic graphic drawing utility program, which on first glance looked good.

The blurb assured me that no handbook was necessary to use the handbook and true enough, I quickly set up a pie chart for 12 items under various headings which was drawn quickly and colourfully Each section of the pie was labelled and expressed as a percentage of the whole Fine

Then troubles began pressing *Esc* was supposed to take me back to the beginning the screen did nothing and I had to reload the thing again

On another occasion typing in some entries quickly caused me to accidently break into the program and again it had to be reloaded Whether these were errors on my part or bugs in the program, I can't say for sure, but in any event it shouldn't happen – these are basic flaws in reliability that are simply not acceptable

Program *CP Graph*
Price *£12 95*
Micro *Amstrad*
Supplier *Innelec 110 Bis Avenue du General-Leclerc 93506 Pantin Cedex France*

This Week

Activision 15 Harley House Marylebone Road, London NW1 01 486 7588 **Bubble Bus** 87 High Street Tonbridge Kent TN9 1RX 0732 355962 **CDS** Silver House Silver Street, Doncaster **Domark** 204 Worple Road London SW20 8PN 01-947 5624 **Gremlin Graphic** Alpha House 10 Carver Street Sheffield S1 4FS 0742 753423 **Hewson** 7 Grahame Close Blewbury Oxon OX11 9QE 0235 832939 **JP Software,** 2 The Avenue Fallings Park Wolverhampton WV10 0RG **Kosmos** 1 Pilgrims Close Harlington, Dunstable, Bedfordshire LU5 6LX **Lette,** Diary House, 77 Borough Road London SE1 1DW **Melbourne House** 39 Milton Trading Estate Abingdon Oxon OX14 4TD 0235 835001 **Microdeal** 41 Truro Road St Austell Cornwall PL25 5JE 0726 73456 **PSS** 452 Stoney Stanton Road Coventry CV6 5DG 0203 667556 **Quicksilva** Palmerston Park House 13 Palmerston Road, Southampton Hampshire SO1 1LL 0703 20169 **Superior,** Regent House Skinner Lane, Leeds LS7 1AX 0532 459453 **US Gold** US Gold, Unit 10 The Parkway Industrial Centre Heneage Street, Birmingham B7 4LY 021 359 3020



Overskill

Home computer owners are remarkably partisan when it comes to the merits of their particular micro. Discussions of 'which machine is best' tend to dominate any gathering of micro enthusiasts.

Why this is so is actually quite simple. Computing is a complex skill and the reason for the biased attitudes of many computer users can be found by studying the psychology of skill acquisition.

When a skill is learnt it is possible that something of what we learn gives us an insight into some other skill. A good badminton player, for example, may find that s/he can play tennis to a reasonable standard without much additional practice. This is because playing badminton is a skill which has much in common with playing tennis.

A squash player, on the other hand, may find it more difficult to learn tennis than someone completely new to racket games. This is because the differences between tennis and squash are more prominent than their similarities and learning the one skill actually hinders the acquisition of the other. This effect is known as the negative transfer of learning.

With a complex skill (that is, a skill with more than one component), some actions will become 'second nature' or, to put it technically, overlearnt. When first learning to drive a car, for example, each action is consciously thought about. Eventually the component actions which make up changing gear or negotiating a roundabout become automatic, allowing the conscious part of the mind to concentrate upon more important things such as the positions of other road users.

Over-learning leads to two effects. Firstly, a skill which is thought to be universal is initially fairly specific to a particular circumstance. It has been known for many years that people are not taught to drive in general, they are taught to drive an Escort or a Metro or whatever and learners often buy the same sort of car as the one they learnt to drive on. Car manufacturers thus find it worthwhile to subsidise sales to driving schools in the hope that the pupils will eventually buy their type of car.

Secondly, transferring skills can be more difficult than learning them initially. Some car drivers would find it difficult to drive a Renault 4 because it has a dash-mounted gear level, for instance, but people who learnt to drive on Renault 4s would say that it was floor-mounted gear sticks that were difficult. Over-familiarity with one skill can interfere with the learning of another.

Computing is a very complex skill requiring typing ability, reasoning powers and a knowledge of a computing language. Parts of the skill are definitely over-learnt. It is probably true to say that because most computer owners are still using their first computer they are not skilled in Basic programming, but only in programming the particular computer which they own.

Their competence to deal with problems efficiently depends upon their familiarity, or rather over-familiarity, with their computer. With an unfamiliar machine, programmers are so conscious of the various new foibles and wrinkles of the Basic dialect that their ability to reason in the language is temporarily impaired.

Of much more significance to computer manufacturers is the fact that people who have learnt computing on one type of machine will invariably find it more difficult to learn another language. The computer they own will thus appear infinitely superior to any other model on the market, no matter how much better the new machine may be.

It isn't just the language which computers use, it is the choice of peripherals, the type of keyboard, the display method, even the size and colour of the casing, which all go together to alienate potential customers because these features are not like those on their present computer.

But paradoxically, customers want something which is a significant improvement upon their old machine whilst still being immediately recognisable and familiar.

Mike Lloyd

Secret code

Puzzle No 173

When Dumkins of MI6 sends his holiday postcards to colleagues at the office he always uses a secret code. For example, if he was staying at Blackpool and wished to send the message 'Wish you were here' he would first write the message with the resort's name beneath it (repeated if necessary),.

WISH YOU WERE HERE
BLAC KPO OLBL ACKP
YUTK JEJ LQTQ IHCU

Then, each letter in the top line would be advanced the number of letters indicated by the letter immediately below it. So the first letter 'W' is advanced by two letters (as 'B', the first letter of 'BLACKPOOL' is the second letter of the alphabet) and so becomes 'Y'. Note that the alphabet is regarded as cyclic in that Z advanced once becomes 'A' and so on.

However, Dumkins' message reads.

ZEBUH U LJFNM AJGJ KFR RVV HJFU JKLL

What does it say, and where is Dumkins staying?

Solution to Puzzle No 168

The eighth 'Hex' prime, 333333331 is, in fact, composite. It has a factor of 17

```
10 LET T=1
20 LET N$=""
30 FOR F=1 TO T
40 LET N$=N$+"3"
50 NEXT F
60 LET N$=N$+"1"
70 LET N=VAL(N$)
80 FOR F=3 TO SQR(N)+1 STEP 2
90 Z=N/F
100 IF Z=INT(Z) THEN GOTO 200
110 NEXT F
120 PRINT N,"PRIME"
130 LET T=T+1
140 GOTO 20
200 PRINT PRINT N "COMPOSITE"
210 PRINT "IT HAS A FACTOR OF";F
```

The program tests each of the so-called 'Hex' primes in turn, from 31 upwards, for primality. The number to be tested is first generated in Lines 10 to 70, by producing a string with the required number of threes in it, and adding a final one on to the end. This is then converted to a numeric in Line 70.

This value is then tested for primality in Lines 80 to 140 by dividing by ascending odd integers to see if there are any exact division.

Winner of Puzzle 168

The winner is B J Harte of Mills Terrace, Chatham, Kent, who receives £10

The Hackers

...And here are your copies of the conference program.
CONFERENCE OF WRITERS OF COMPUTER DOCUMENTATION
REGISTRATION POINT
MUCH, MUCH LATER...
The first meeting is tonight isn't it?
Only if the welcoming address is the same thing as the opening session.
Hang on,- it says here that the first session and the opening address are on different days I think.


Trivia
A family game for 2 to 4 players in which mum is just as much at home as the sports crazy son
Over 2000 questions on six subjects like Entertainment - Sports - History
C64 - Amstrad - Atari - BBC - Spectrum £7.95
?
FIVE-A-SIDE
A soccer game with real pace in which passing skills are as essential as speed Penalty shoot out truly tests your anticipation
One or two player option
C64 - £6.95
Spectrum - Amstrad
Atari - BBC - MSX SOON
SLAP SHOT
A fast and furious game which requires skill and fast reactions Ice Hockey is a tough game but persistent rough game is punished by roughing penalties
One player or two player option
C64 - Amstrad - MSX £8.95
Assume control of this unique fighting machine Take care that you practice take off and landing thoroughly before you embark on a combat mission to seek and destroy the enemy aircrafts Use your radar to locate the carrier and land in worsening weather conditions as you progress through the ranks
C64 - Amstrad - BBC £9 95.
Atari - Spect - Electron SOON
JUMP JET
VOICE MASTER
VOICE MASTER A unique three in one package
Speech Reproduction Speaks in your own voice
Easy to incorporate speech in your own programmes
Recorded speech does not require Voice Master for reproduction
Speech Recognition - Imagine your computer actually understanding what you say
Voice Harp - Just whistle or hum to produce music
£59.95
TRADE ENQUIRIES ANIROG Unit 10 Victoria Industrial Estate Dartford Kent 0322 92513/18
MAIL ORDER 8 High Street Horley Surrey 029 378 6083
24 Hour Credit Card Service or pay by Cheque P.O., Visa or Access
ANIROG